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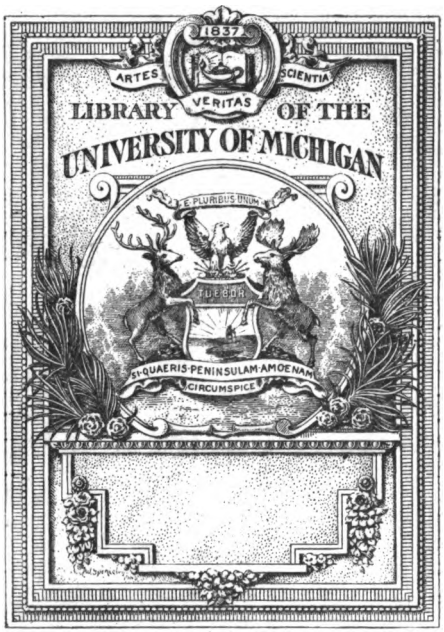

THE GIFT OF
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TRANSACTIONS

of the

New Hampshire

MEDICAL SOCIETY

at the

ONE HUNDRED AND TWENTIETH ANNIVERSARY

Held at

Concord, May 11 and 12, 1911

PENACOOK, N. H.
W. B. RANNEY, PRINTER
1911

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New Hampshire Medical Society

OFFICERS FOR 1911—1912.

PRESIDENT

GEORGE W. McGREGOR, Littleton.

VICE - PRESIDENT

JOHN W. STAPLES, Franklin.

SECRETARY

D. E. SULLIVAN, Concord, term expires, 1915

TREASURER

D. M. CURRIER, Newport, term expires 1915.

COUNCILORS

Coos County—FRANK W. EVANS, Coos, term expires 1912.

Carroll, County—JOHN Z. SHEDD, North Conway, term expires 1912.

Belknap County—ALPHA H. HARRIMAN, Laconia, term expires 1913.

Grafton County—FREDERICK VON TOBEL, Lebanon, term expires 1913.

New Hampshire Medical Society, 11-2-1911

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Cheshire County—HERBERT K. FAULKNER, Keene, term expires 1914.

Sullivan County—EMERY M. FITCH, Claremont, term expires 1914.

Merrimack County—PEARL T. HASKELL, Concord, term expires 1915.

Hillsborough County—ELLA B. ATHERTON, Nashua, term expires 1915.

Rockingham County—WALTER TUTTLE, Exeter, term expires 1916.

Strafford County—LOUIS W. FLANDERS, Dover, term expires 1916.

TRUSTEES

SILAS M DINSMOOR, Keene, term expires 1912.

JOHN W. PARSONS, Portsmouth, term expires 1913.

JOHN M. GILE, Hanover, term expires 1914.

HOUSE OF DELEGATES

Rockingham County—JOHN W. PARSONS, Portsmouth
A. C. BUSWELL, Epping

Belknap County—F. B. EASTON, Lakeport
E. F. HOUGHTON, Tilton

Cheshire County—S. M. DINSMOOR, Keene
J. A. CRAIG, Westmoreland

Hillsborough County—F. E. KITTREDGE, Nashua
G. S. FOSTER, Manchester
W. H. ABBOTT, Hillsboro

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Strafford County—J. H. BATES, East Rochester
T.J. DOUGHERTY, Somersworth
Merrimack County—C. E. BUTTERFIELD, Suncook
H. H. AMSDEN, Concord
Coos County—W. H. LEITH, Lancaster
R. E. WILDER, Whitefield
Grafton County—CHAS. R. GIBSON, Woodsville
EDGAR O. CROSSMAN, Lisbon
Sullivan County—E. C. FISHER, Sunapee
H. C. SANDERS, Jr., Claremont
Carroll County—FRED E. BRYAR, Whiteface
E. W. HODSDON, Mountain View

BOARD OF MEDICAL EXAMINERS

GEORGE COOK, Concord, term expires 1912
GEORGE H. SHEDD, North Conway, term expires 1913
JOHN F. ROBINSON, Manchester, term expires 1914
JAMES T. GREELEY, Nashua, term expires 1915
A. C. HEFFENGER, Portsmouth, term expires 1916

DELEGATES

To American Medical Association

JOHN Z. SHEDD, North Conway, 1912-13

Alternate

IRVING A. WATSON, Concord, 1912-13

To State Societies

Maine—THOMAS W. LUCE, Portsmouth
GEORGE P. MORGAN, Dover

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Massachusetts—EDWARD F. HOUGHTON, Tilton
IRA J. PROUTY, Keene
Vermont—CHARLES R. GIBSON, Woodsville
CHARLES B. DRAKE, West Lebanon
New York—JOHN D. QUACKENBOSS, New York
H. SHERIDAN BAKETEL, New York
Rhode Island—JOSEPH W. FINERTY, Milford
JAMES S. BLACK, Nashua
Connecticut—CHAS. W. HARRINGTON, Peterboro
ALFRED H. CHILDS, Dublin

NECROLOGIST

ELI E. GRAVES, Penacook

ANNIVERSARY CHAIRMAN

LOUIS W. FLANDERS, Dover

STANDING COMMITTEES

Scientific Work

D. E. SULLIVAN, Concord
JOHN M. GILE, Hanover
LOUIS W. FLANDERS, Dover

Public Policy and Legislation

CHARLES DUNCAN, Concord
CHARLES A. WEAVER, New Boston
President and Secretary, *ex officio*

Publication

Secretary, President and Treasurer

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Arrangements

Merrimack County Society

Expert Medical Testimony

FERDINAND A. STILLINGS, Concord

EDGAR O. CROSSMAN, Lisbon

GEORGE C. WILKINS, Manchester

JOSEPH J. COBB, Berlin

JOHN M. GILE, Hanover

The next annual meeting of the society will be held at Concord, May 8 and 9, 1912.

All communications for the society should be addressed to the Secretary, D. E. Sullivan, M. D., Concord.

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New Hampshire Medical Society

PROCEEDINGS

OF THE

ONE HUNDRED AND TWENTIETH ANNUAL MEETING

MORNING SESSION, THURSDAY, MAY, 11, 1911

The meeting was called to order by the President, Alonzo S. Wallace of Nashua.

Prayer was offered by Rev. Ashley Day Leavitt.

Dr. Charles H. Dolloff, the Charman of Committee of Arrangements, reported for the committee.

The chair appointed as a committee on the reception of delegates, Drs. George Cook of Concord, Weaver of New Boston, and Jones of Franklin; to examine patients Drs. Morrison of Whitefield, Crossman of Lisbon, and Houghton of Tilton.

Two visiting delegates were present and introduced: F. N. Brown, M. D., of the Rhode Island Medical Society, and G. Z. Goodell, M. D., of the Massachusetts Medical Society. Dr. Goodell made the following remarks:

"I am happy to bring the greetings of the Massachusetts Medical Society to the New Hampshire meeting, and upon my return I shall make the best report that lies in my power to do."

Dr. Brown spoke as follows: "It is the business of a doctor to do something rather than to say something. The most of us say too much. When here two years ago as a delegate, somebody started something going

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by speaking at this convention, and he was my predecessor of Massachusetts. Now, I am expected to say something, but when there is nothing to say it is pretty hard work. We come here as delegates representing a body, and the body which I represent is the Rhode Island Medical Society. I extend greetings to this body here. At that time tuberculosis was somewhat taking the common eye down in Rhode Island, and I notice that some one of your members whom I do not see here was to say something about the practice laws of New Hampshire. We have just had a little turmoil down in Rhode Island about the practice laws of the state in so far as it was assailed by a cult which parades under the name of osteopathy. We have no quarrel with osteopathy or osteopaths, but we have a quarrel that is pretty potent and altogether to the point against the inefficient and total inadequacy of equipment of these people to treat disease. I am sorry to say that the medical profession did not fight this very much in Rhode Island though the state secretary was and is a very able man, and was qualified to cope with it, and he proved equal to the occasion with a little help; but he had a hard job, and if that thing ever comes into New Hampshire, the mental healing and the walking in the grass cure, I hope the medical profession will know how to take care of it. The quarrel is not with the treatment but the claim they make. One of these men got up before the judiciary committee of the house of representatives and said he could cure diphtheria if he saw it in time and tonsilitis; he would treat appendicitis, typhoid fever and other things. If your grandfather got up in the night and took a drink out of the wrong bottle, perhaps he would rub him. If he had measles, he would rub him; if he had a button in his throat, he would rub him, or if he had a special disease he would rub him. We had

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seventeen in Rhode Island and they asked for special legislation so that they might be permitted to practice the treatment of disease there. It got into a committee and then went before the house of representatives. Fortunately it was referred back, and while it is none of my business to talk for or against osteopahy, I cannot restrain myself from speaking about this which I believe strikes at the root of not the medical men but of all the people themselves and is a menace to the common weal. We do not need protection against osteopaths. Our sleep would be none the less sweet because somebody practiced rubbing. Let them rub, but they are rubbing the people and not the doctor. I hope as Dr. Gile is not here that you will take this up. I do not want to say anything disparaging of Dr. Gile, although he has said a few things about me in years gone by when he was a professor of the practice of medicine, and I a student. And with that, Mr. Chairman, thanking you for the courtesy, I can say that I bring greetings to you from the state of Rhode Island to this convention.

The President,Dr. Alonzo S. Wallace, of Nashua, read the annual address.

Dr. Louis W. Flanders, Dover, read a paper on Ophthalmia Neonatorum" which was discussed by Dr. Chas. F. Nutter, Nashua, from the standpoint of the specialist.

Dr. Charles S. Gilman, Boston, read a paper on "Anal Fissure", which was discussed by Drs. Clifton S. Abbott, Laconia, and William E. Lawrence, North Haverhill.

Afternoon Session, May 11

The meeting was called to order at 2.30 o'clock by the President. Dr. M. E. Kean, Manchester, read a paper on "Two Surgical Cases", which was discussed by Drs. W. H. Lyons and W. A. Thompson, Manchester.

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Dr. W. Gilman Thompson, New York, read a paper on "Clinical Experiences with Sera and Vaccines", which was discussed by Drs. John G. W. Knowlton, Exeter, and Sibley G. Morrill, Concord.

Dr. Zatae L. Straw, Manchester, read a paper on "Medical Inspection of Schools", which was discussed by Drs. Clarence O. Coburn, Manchester, D. M. Currier, Newport, and Isaiah G. Anthoine, Nashua.

Dr. John W. Staples, Franklin Falls, in the absence of Dr. John M. Gile, read a paper on "Medical Practice Laws", which was discussed by Dr. W. H. Lyons, Manchester.

Dr. E. A. Landman, Plaistow, read a paper on "Rational Medical Treatment", which was discussed by Drs. Henry L. Sweeney, Kingston, and John W. Parsons, Portsmouth.

Dr. William E. Lawrence, North Haverhill, read a paper, "Report of a Case of Skin-Grafting of the Scalp".

Friday, May 12

Meeting called to order at 9.30 o'clock by the President, Alonzo S. Wallace.

The first paper by Dr. Frederick P. Claggett, Newport, "Aids to Modern Surgery", was discussed by Dr. G. Z. Goodell of the Massachusetts Medical Society.

Dr. George A. Weaver, Warren, read a paper on "Drinking Water as a Medium of Lead Poisoning", which was discussed by Dr. W. E. Lawrence, North Haverhill.

Dr. Henry O. Smith, Hudson, read a paper on "The Treatment of Medical Subjects by the Lay Press", which was discussed by Drs. Eva M. Locke, Nashua, and Edwin F. Bowers, Hartford, Conn.

Dr. Park R. Hoyt, Lakeport, read a paper on "Coma and its Congenders" which was discussed by Drs. Clar-

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ence O. Coburn, Manchester, and Alpha H. Harriman, Laconia.

Dr. Edwin F. Bowers, Hartford, Conn., presented a paper on "Eugenics and Medical Sociology". This was discussed by Dr. D. M. Currier of Newport.

The Secretary made the report of the House of Delegates, and Dr. John W. Parsons read the report of the Trustees.

President-elect George W. McGregor, Littleton, briefly returned thanks for the honor conferred on him.

On motion adjourned to May 8 and 9, 1912.

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Minutes of the House of Delegates

The meeting of the House of Delegates was called to order by the President at 8.30 o'clock p. m. at the Eagle Hotel Wednesday, May 10.

Dr. W. H. Abbott and Dr. Geo. S. Foster were appointed by the chair a committee of two on credentials and reported thirteen as received.

The roll call was read by the Secretary which showed eighteen delegates present.

E. W. HODSDON, Carroll
C. R. GIBSON, Grafton
W. H. ABBOTT, Hillsboro
H. H. AMSDEN, Merrimack
G. S. FOSTER, Hillsboro
H. C. SANDERS, JR., Sullivan
C. E. BUTTERFIELD, Merrimack
E. F. HOUGHTON, Belknap
S. M. DINSMOOR, Cheshire
E. O. CROSSMAN, Grafton
F. B. EASTON, Belknap
R. E. WILDER, Coos
JOHN W. PARSONS, Rockingham
A. C. BUSWELL, Rockingham
ALONZO S. WALLACE, President
G. W. MCGREGOR, Vice-President
D. E. SULLIVAN, Secretary
D. M. CURRIER, Treasurer

Voted that I. A. Loveland of Keene be appointed delegate from Cheshire County temporarily in place of Dr. J. A. Craig.

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Voted that Dr. G. H. Morrison be a delegate temporarily in place of Dr. W. H. Leith of Lancaster.

Voted that Dr. J. Z. Shedd be a delegate from Carroll County in place of Dr. F. E. Bryar who was not present.

The Secretary's report was read and accepted.

REPORT OF THE SECRETARY.

The membership of our Society at the present time is as follows:

Rockingham County	55	members.
Strafford County	37	"
Belknap County	25	"
Carroll County	20	"
Merrimack County	73	"
Hillsborough County	115	"
Sullivan County	24	"
Grafton County	43	"
Cheshire County	35	"
Coos County	29	"
	456	"
Not belonging to County Societies	74	"
Retired List	8	"
	538	"
Honorary Members	13	"

In general session last year the Society unanimously recommended Dr. Wm. B. Coley of New York for honorary membership and its action has been reported to the Council.

Shall we continue to send the transactions to those on the retired and honorary lists unless they express a wish for them? Excepting three, they all reside outside the state and are not in touch with the society in any way.

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Membership certificates were authorized to be given to those joining the county societies, but no formal certificate as in the past has been prepared but a combination receipt and membership card in accordance with the custom of nearly all of the States has been prepared for this year and will be continued or modified as directed.

The question of the character of the exhibits at our meetings has arisen and the local committee ask for specific instructions on this point for their intelligent guidance.

It was universally agreed that our second day's session has not been a success in a popular sense and any method whereby two days of good meetings with respectable attendance could be assured, would be heartily welcomed. It has been suggested that the House of Delegates hold its first meeting Wednesday morning, the opening of the general session to be at noon with addresses of welcome by the Governor and Mayor and the President's oration, then adjournment to the afternoon for the scientific program. The evening for sociability, meeting of the House of Delegates, reunions of different organizations with a smoke talk or lecture. Thursday to be a full working day with the banquet in the evening.

The name of Dr. Arthur C. Heffenger with Dr. Abram W. Mitchell as alternate was sent to the Governor and Council according to your instructions for the Board of Medical Examiners.

Dr. Charles S. Little, owing to his removal from the state, declined the appointment of Anniversary Chairman and the President selected Dr. James T. Greeley for the position.

Dr. George Cook was delegated to represent our society at the Council of Medical Education in Chicago last February and will submit a report of that meeting.

Many of our members joining through their county

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society in 1909, the first year of our organization, have not paid their dues for that year but have paid for 1910 and 1911 and it would be well to have some action taken on those cases.

Our gain in membership the past year has not been creditable and shows a lack of personal interest and enthusiasm. The county society to-day has greater opportunities to appeal to the non-members than ever before and the coming year should prove that energy can be profitably expended along these lines.

The treasurer's report was read and accepted.

TREASURER'S REPORT

To the New Hampshire Medical Society:

Your Treasurer begs leave to make the following report covering the time from May 1st to Dec. 31st, 1910.

DR.

1910.				
May	1.	To cash on hand as per last report . . .	$748.56	
	13.	cash from exhibitors	121.00	
	18.	cash from sale of dinner tickets . . .	150.00	
Dec.	31.	cash for dues from members direct, and from Dr. Sullivan, Sec'y	381.00	
				$1,400.56

CR.

1910				
May	12.	By cash paid S. M. Dinsmoor, Trustee . .	$10.57	
	12.	cash paid Arthur F. Nevers, music . .	21.00	

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	9	cash paid Ira Evans Co., transactions, . .	438.30	
	12	cash paid Eagle Hotel Company . . .	165.50	
	14	cash paid John Wendell assistant janitor ..	2.00	
	14	cash paid Emily A. Clark stenographer . .	3.50	
	14	cash paid John F. Webster, (Hall) . .	25.00	
	15	cash paid Rumford Printing Co., . . .	10.00	
	30	cash paid Wm. B. Coley M. D., expenses .	20.00	
	31	cash paid J. B. Cooper, envelopes . .	10.62	
June	2	cash paid Ira C. Evans, supplies . . .	2.50	
Aug.	15	cash paid George Cook, M. D., sundries . .	14.30	
Sept.	9	cash paid D. E. Sullivan, overpay . .	1.00	
Nov.	1	cash paid D. E. Sullivan, secretary and expenses	203.15	
	19	cash paid American Medical Association. .	2.50	
	25	cash paid Republican Champion, printing .	1.50	
	30	cash paid D. E. Sullivan, expenses . .	17.40	
		Amount paid out . . .		$948.84
Dec.	31	Cash on hand and carried forward		$451.72

Respectfully submitted,

D. M. CURRIER,

Treasurer.

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Concord, N. H., May 11, 1911.

We have this day examined the accounts of the Treasurer and find them properly vouched and cast.

JOHN W. PARSONS,
S. M. DINSMOOR,
Trustees.

On motion of Dr. Gibson, it was voted to leave the matter of cancelling the indebtedness of members who were in arrears to the secretary.

The reports of councilors from Carroll, Belknap, Rockingham, Grafton, and Cheshire counties were read, and it was voted to refer them to the committee on publication.

REPORTS OF COUNCILORS.

Carroll County.

The Carroll County Medical Society meets quarterly, usually at Sanbornville, which is the most central place in point of transportation for the entire county.

The meetings have been fairly well attended, the papers interesting and freely discussed.

At the last meeting holden on the fourth day of April, there were present seven members, which, considering the few physicians in the county and the poor roads at that time, may be considered a good attendance.

Paper—Empyema. Voted to hold the next meeting at North Conway, in June.

J. Z. SHEDD.

Belknap County.

My report as councilor of Belknap County is a delight, for I can say that this society is in a most prosperous condition. Each year sees more doctors obtaining

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membership, and very soon all regulars will be county members and I trust that other medical men in this county will cease to choose distinctive names and that they will eventually enroll themselves with the rest in an attempt to perpetuate scientific medicine. None of us may come very near it but if we honestly try then we have done much and empiric medicine will become history only and the opportunities for quackery in and out of the profession and now in one school as much as another, will be reduced in exact proportion to our individual attempts to practice what then will be a truly noble calling.

We hold regular monthly meetings the year round, except during the months of July, August and September, and we have good and interested attendance. Our post-graduate school has been allowed to lapse, but I am sure that all will want to start again next October. We have suffered no loss by death in the last year, and there has been no occasion for a councilor to exercise his prerogative except to use his influence for the general good of our order. It is a source of great satisfaction to the members of this county society that we are getting so strong a medical organization in county, state and national societies. That is what we all need and what I hope we everywhere will work for.

A. H. HARRIMAN.

Rockingham County

As usual, we have held but one, the annual, meeting, in November, at Portsmouth.

The attendance was fairly good, the program excellent, as was the banquet, by which it was the purpose to reduce the surplus in the treasury.

It does not seem possible to hold more than one successful meeting in this county per year.

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The great majority of the physicians live in Derry, Exeter and Portsmouth, while the remainder are widely scattered.

These towns have well supported local societies to the meeting of which invitations are generously extended to brothers outside their limits and frequently accepted.

Two names were added to our membership at the last meeting.

There are very few in the county who are not at present members, and a feeling of harmony and fellowship prevails throughout the entire jurisdiction.

Respectfully submitted,

A. W .MITCHELL.

Grafton County

This society now consists of forty-two active members out of seventy-seven legally qualified physicians in the county.

Two meetings were held during the year. The July meeting was at Littleton, the regular meeting being followed by a reception and banquet to which the wives of members were invited and quite a number were present.

The December or annual meeting was held as usual at Woodsville. The programs at both meetings were very interesting, well discussed and helpful.

There is an average attendance of more than half of the membership, which is an excellent showing, but it would be still greater if all the members realized what they miss by not being present.

On the whole, the society is in a prosperous condition,

F. VON TOBEL.

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Cheshire County

The Cheshire County Medical Society has had meetings in June, November and February, with papers of interest by local men.

We have a membership of	35
Gain in membership	1
Loss by transfer	1
Loss by resignation	1
Loss by death	1
Loss by expulsion	1

We lost by death Dr. Jos. Mariner Thompson of Walpole.

Dr. Bayard T. Mousley of Alstead was expelled for unprofessional conduct.

There are about eight unaffiliated men practising in this county, two, at least, being new men.

Contract work has been much discussed during the year, and the society finally voted its disapproval of all forms of contract work.

Complaints were made against Dr. Arthur Liston of North Walpole, for doing contract work, and against several members of our society for consulting with him. These complaints were, however,dropped, as Dr. Liston stated that he had decided to give up all contract work.

The officers of our society are:

Charles S. Walker of Keene, president; Lester R. Brown of Winchester, vice-president; Edward A. Tracy of Keene, secretary and treasurer.

HERBERT K. FAULKNER.

Strafford County

The 103d annual meeting of the Strafford County Medical Society was held in October, at Dover, with a very good attendance. A few additions were made to

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our membership, and one application was rejected. Several interesting papers were read and discussed. Our society meets once a year, at Dover. I think it would be a good plan to meet twice a year and, perhaps, to hold one of the meetings in Rochester, which is the most central place in the county.

The relations between the members of our society seem to be harmonious.

FORREST L. KEAY.

Sullivan County

The Sullivan County Medical Society has held two meetings during the past year.

The summer meeting was held at the Carrie Wright Memorial Hospital, in Newport, July 12, eleven members being present. At this meeting a paper was read by Dr. Upham, on "Tuberculosis," including an interesting account of the work which is being carried on at Glencliff. The discussion was opened by Dr. Currier and entered into freely by the other members present.

The winter meeting was held at the Elks' Home in Claremont, January 4. There were fourteen members present. Dr. Claggett read a paper on "Aids to Modern Surgery." Discussion was opened by Dr. Sanders. Dr. Claggett took the X-ray as being the chief aid to surgery, and gave a very interesting and instructive talk on the subject.

Our society believes that the most good can be obtained by having only one paper read at each meeting, and taking plenty of time for the discussion.

The following officers were chosen:

F. P. Claggett, Newport, president; Leonard Jarvis, Claremont, vice-president; Emery M. Fitch, Claremont, secretary and treasurer; O. C. Young, Charlestown, H.

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C. Sanders, Claremont, F. P. Jones, Mill Village, Censors; H. C. Sanders, E. C. Fisher, delegates.

EMERY M. FITCH,
Secretary.

Merrimack County

The Center District and Merrimack County Medical Society has an active membership of seventy-nine, three of whom were admitted during the year; and there are twenty-three non-members, the majority of whom are eligible for membership.

The meetings of the society, four in number, are held on the second Tuesdays of January, April, July and October, with an average attendance of thirty.

By invitation of Dr. Charles P. Bancroft, the April meeting was held at the State Hospital. Dr. Bancroft, assisted by Drs. Dolloff, Macdonald and Landers, gave a most interesting clinic on "Dementia Praecox."

In July the society met with Dr. H. H. Amsden, and in October the members were invited to Pittsfield by Dr. F. H. Sargent, when interesting cases were reported and freely discussed.

As is the usual custom, the annual meeting was held at the Eagle Hotel, in the city, January 10, 1911.

The society had as its guest Dr. Arthur L. Chute of Boston, whose paper on "Prostatic Obstruction" was listened to with marked interest.

P. T. HASKELL.

The report of the Committee on Publication was read, and it was voted to appoint a committee of three, by the chair, to act upon the proposition of the Vermont Medical Society to print our transactions. Dr. Foster, Dr. Parsons and Dr. Wilder were appointed by the chair.

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REPORT OF COMMITTEE ON PUBLICATION

Proposals for printing and binding 600 copies of the Transactions of 1910 were submitted for competitive bids, and Ira C. Evans Co., was awarded the contract at ninety cents per page for printing and twenty cents per copy for binding.

The proposition of the Vermont Medical Society to print our transactions was respectfully referred to the House of Delegates for definite action at this time.

ALONZO S. WALLACE.
D. E. SULLIVAN.
D. M. CURRIER.

The report of the Committee on the History of Medicine in New Hampshire was read by the secretary.

REPORT OF THE COMMITTEE ON THE HISTORY OF MEDICINE IN NEW HAMPSHIRE

The Committee on the History of Medicine in New Hampshire has the honor to report that, in accordance with a vote of the society at its annual meeting in 1909, it has published the complete manuscript records of the New Hampshire Medical Society from 1791 to 1854, and that the volume will be ready for distribution at the annual meeting of the society on May 11 and 12, 1911.

Respectfully submitted,
IRVING A. WATSON,
Chairman of the Committee.

The Report of the committee on Scientific Program was read by the secretary.

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REPORT OF THE COMMITTEE ON SCIENTIFIC PROGRAM

The programs of the past have been largely made up of papers on scientific technical subjects previously read at the meetings of the county societies. It is a fair question to ask, Is this repetition of subjects contributing to the best interests of the Society? Would the discussion of questions affecting the business side of the profession, ethics, protection of public health, legislative action, social evils and the like strike a more popular chord if given a prominent place in our general sessions?

At the best, it is no easy matter to arrange a program to suit the tastes and meet the approval of the majority, but the intention has always been to serve the material at hand in the most attractive manner.

We ask for this year's program your kindly criticism.

D. E. SULLIVAN.
LOUIS W. FLANDERS.
JOHN M. GILE.

The report of the Committee on Legislation was read by the secretary.

REPORT OF COMMITTEE ON LEGISLATION

The chief part of the work of your committee has been connected with the legislative session just closed.

We have failed to secure the desired amendment to the medical practice law. We succeeded in preventing the passage of a law licensing osteopaths to practice general medicine and surgery. A board of examiners in optometry was created in spite of our opposition, and a bill relating to expert medical testimony was defeated. For detail in regard to above, we would refer you to a brief communication of the chairman of this committee to the

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society, which we herewith submit.

JOHN M. GILE,
Chairman.

The proposed amendment to the constitution by Dr. Dinsmoor, laid on the table from last year, was indefinitely postponed on motion of Dr. Foster. The subject of contract medicine was discussed at some length and was referred to the council for settlement.

On motion of Dr. Crossman, it was resolved that it is the sense of this meeting that the House of Delegates assemble at 11 o'clock on the first day of the meeting next year.

On motion of Dr. Sullivan, it was voted that the annual meeting be held on the second Wednesday and Thursday of May, May 8 and 9, 1912.

REPORT OF DELEGATE TO AMERICAN MEDICAL ASSOCIATION

As alternate delegate to the American Medical Association, I was privileged to attend the sixty-first annual session of that body at St. Louis, June 5 to 10, 1910.

The hearty welcome extended to the members of the society and their ladies, the ample provisions for their comfort and entertainment, were typical of the hospitality and good fellowship for which this city is so justly famed.

The attendance was large and the work of the various sections was of its usual high order.

The reports of the Secretary and Treasurer showed the general and financial conditions as being prosperous in the extreme. Its membership is steadily increasing and its income is far in excess of expenses.

The report of the Council on Medical Education, recommending the discontinuance of medical colleges

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below a certain standard, created a storm of protest from several states that were hard hit, but the mass of statistics that had been so carefully prepared and presented could not be contradicted, and all had to admit the justice of the recommendation.

On the day previous to general election, one of the local papers came out in glaring headlines with reports of trouble from the "Insurgent Camp," so called; the Insurgents being arrayed against the Secretary and his administration of the society's affairs.

At the close of a short address, on the morning of the elections, in which the Secretary asked to be relieved of further responsibilities of the office, a shower of protest arose from all over the house. Too much could not be said in his praise or in that of his management.

In spite of the reported opposition and his own plea for relief, Dr. George H. Simmons was re-elected by an overwhelming majority.

It was voted to meet at Los Angeles in 1911.

J. Z. SHEDD,
Alternate Delegate.

Adjourned to 10 a. m., May 11, 1911.

MAY 11.

Met according to adjournment at 10 o'clock a. m. The minutes of last meeting were read and approved. A roll call showed the following present:

Alonzo Wallace, G. W. McGregor, D. M. Currier, C. R. Gibson, W. H. Abbott, H. H. Amsden, H. C. Sanders, Jr., C E Butterfield, E F. Houghton, S. M. Dinsmoor, E. O. Crossman, F. B. Easton, John W. Parsons, A. C. Buswell, J. Z. Shedd, F. E. Kittredge, Emery M. Fitch, D. E. Sullivan.

The President appointed the following Committee on Nominations, approved by vote of the delegates:

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John W. Parsons, Rockingham; S. M Dinsmoor, Cheshire; C. R. Gibson, Grafton; Emery M. Fitch, Sullivan; C. E. Butterfield, Merrimack.

The report of the trustees was read and approved.

REPORT OF TRUSTEES

The Trustees of the New Hampshire Medical Society submit the following report:

The Bartlett fund, on deposit in the Portsmouth Savings Bank, bank book No. B 21110, amounted at last report to.....	$2,429.43
January, 1911, interest	73.42
Total	$2,502.85

Three hundred and fifty-two dollars and eleven cents of this sum is, by the terms of the bequest, a permanent fund, leaving $2,150.74 to the order of the society.

The Pray fund, on deposit in the Strafford Savings Bank at Dover, bank book No. A 42, amounted at last report to.....	$1,141.52
May 24, 1910, withdrawn for prize awarded to George S. Foster, M. D.....	100.00
	$1,041.52
January, 1911, interest	36.75
Total	$1,078.27

The original sum was $1,000, the income only of which can be expended solely for prize essays.

The Society has also on deposit in the Merrimack River Savings Bank at Manchester, bank book No. 26934, the sum of $998.65; in the New Hampshire Savings Bank, Concord, bank book No. 35696, the sum of $289.79; in the Portsmouth Trust and Guarantee Company, bank book No. 12813, the sum of $1,039.30; total

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amount in care of the Trustees, $5,908.86; of which $4,-556.75 can be expended by the Society.

A prize of one hundred dollars is offered to the members of the Society for the year 1912, concerning which a circular will be issued.

JOHN W. PARSONS,
S. M. DINSMOOR,
JOHN M. GILE.
Trustees.

Dr. Charles Duncan gave an extended account of the results of attempted legislation before the legislature of this year, and further remarks were made by Drs. Parsons, Crossman, Sullivan, Kittredge, Amsden and C. A. Weaver on the same subject.

On motion of Dr. F. E. Kittredge, the committee on Legislation was authorized to employ counsel, conduct a campaign of publicity and expend a sum of money not exceeding five hundred dollars for legislative purposes.

On motion of Dr. F. E. Kittredge, the Secretary was instructed to ask the county societies to appoint a legislative committee to act in conjunction with the State committee on Legislation.

Dr. Crossman moved that the efforts of the House Committee on Public Health and the work of Dr. Charles Duncan in behalf of medical legislation be approved and a vote of thanks extended to them. It was unanimously voted.

On motion of Dr. Easton adjourned to 5 o'clock, p. m.

Meeting called to order at 5 p. m. Minutes read and approved.

The following members answered the roll call:

Alonzo Wallace, E. W. Hodsdon, C. R. Gibson, W. H. Abbott, H. H. Amsden, H. C. Sanders, Jr., C. E. Butterfield, E. F. Houghton, John W. Parsons, A. C. Buswell, I. A. Loveland, F. E. Kittredge, D. E. Sullivan.

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Dr. John W. Parsons made the report for the Committee on Nominations.

President—George W. McGregor, A. W. Mitchell O. B. Way.

Vice-President—John W. Staples, Emdon Fritz, H. K. Faulkner.

Councilor, Rockingham County, for five years—Walter Tuttle.

Councilor, Strafford County, for five years—Louis W. Flanders.

Trustee for three years—John M. Gile.

Delegate to American Medical Association, 1912-13—John Z. Shedd.

Alternate Delegate to American Medical Association, 1912-13—I. A. Watson.

DELEGATES TO STATE SOCIETIES

Maine—T. P. Luce, G. P. Morgan.

Massachusetts—E. F. Houghton, I. J. Prouty.

Delegates to the others to be named by the Secretary of the Society.

Necrologist—E. E. Graves.

Anniversary Chairman—Louis W. Flanders.

STANDING COMMITTEES

Scientific Work—D. E. Sullivan, John M. Gile, L. W. Flanders.

Public Policy and Legislation — Charles Duncan, Charles A. Weaver, President and Secretary, ex officio; other member to be elected by the Committee.

Drs. Amsden and Kittredge were appointed a committee to receive, sort and count ballots. Having attended to their duties, they reported thirteen votes cast for President, of which George W. McGregor received twelve and he was declared elected President for the ensuing year.

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For Vice-President, thirteen votes were cast, of which John W. Staples received eleven and he was declared elected Vice-President for the ensuing year.

On motion of Dr. Hodsdon the Secretary cast one ballot for the remainder of the officers as reported by the Committee and they were declared elected.

REPORT OF NECROLOGIST.

The following members have died since our last meeting:

1910.

George E. Allen, Bradford, Mass.
John Loring Burnham, Las Cruces, New Mexico.
Clarence Samuel Bartlett, Gardner, Mass.
T. M. Togus, Hooksett.
Josiah N. Woodward, Nashua.

1911.

C. F. Kingsbury, East Medford, Mass.
Vesley M. Newcomb, Somersworth.
James B. Pettengill, Amherst.

REPORT OF COUNCIL.

The meeting of the Councilors was held May 11, 1911.

A. W. Mitchell was appointed Chairman pro tem.

Fred Von Tobel was appointed Secretary.

The following men were recommended as honorary members:

W. B. Coley, New York; W. Gilman Thompson, New York; William Conant, Boston.

The Council discussed contract practice at length, but decided action in the matter should be left to each county society.

On motion of Dr. Shedd, Dr. P. T. Haskell was

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chosen chairman for the ensuing year.

Adjourned to May 8, 1912.

FRED VON TOBEL,
Secretary.

REGISTERED

At Annual Meeting, May 11-12, 1911.

Albert C. Buswell.....Epping
George H. Sanborn.....Henniker
S. H. Dinsmoor.....Keene
Thomas W. Luce.....Portsmouth
F. E. Kittredge.....Nashua
D. M. Currier.....Newport
E. F. Houghton.....Tilton
W. H. Abbott.....Hillsboro
Seth W. Jones.....Franklin
C. A. Weaver.....New Boston
H. H. Amsden.....Concord
J. W. Coolidge.....Bristol
Charles B. Drake.....West Lebanon
A. S. Dolloff.....New Hampton
A. H. Harriman.....Laconia
I. A. Loveland.....Keene
L. B. Morrill.....Centre Harbor
George Cook.....Concord
G. W. Weymouth.....Lyme
R. E. Wilder.....Whitefield
G. H. Morrison.....Whitefield
C. H. Dolloff.....Concord
E. T. Drake.....Franklin
Charles A. Lamson.....Elkins
Edgar A. Clark.....Concord
F. A. Stillings.....Concord
John H. Gleason.....Manchester
Thos. F. Cotton.....Manchester

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Charles F. Flanders .....Manchester
G. H. Saltmarsh .....Laconia
E. P. Hodgdon .....Lakeport
F. L. Gerald .....Warren
P. T. Haskell .....Concord
W. H. True .....Laconia
George C. Blaisdell .....Contoocook
Louis W. Flanders .....Dover
Oliver N. Eastman .....Dover
J. A. Craig .....Westmoreland
A. A. Beaton .....Franklin
A. S. Russell .....Rumney
W. E. Smith .....Franklin
J. H. Neal .....Portsmouth
J. F. Robinson .....Manchester
E. B. Eastman .....Portsmouth
F. N. Rogers .....Manchester
C. W. Milliken .....Manchester
Henry C. Sanders, Jr. .....Claremont
F. B. Easton.....Laconia
E. W. Hodsdon .....Mountainview
N. L. Griffin .....New London
J. B. Woodman .....Franklin
C. R. Gibson .....Woodsville
John W. Parsons .....Portsmouth
John W. Staples .....Franklin
Eugene Wason .....Milford
H. H. Boynton .....Lisbon
Emery M. Fitch .....Claremont
C. S. Abbott .....Laconia
W. E. Lawrence .....North Haverhill
F. E. Spear .....Lisbon
V. H. Sikorsky.....Salem
Frank Eaton .....Weare
George Z. Goodell ..... Salem, Mass.

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M. S. Danforth ..... Manchester
Bradford Allen ..... Nashua
I. G. Anthoine ..... Nashua
H. L. Sweeny ..... Kingston
Ellen A. Wallace ..... Manchester
S. S. Dearborn ..... Nashua
C. H. Holcombe ..... Brookline
Edwin G. Annabel ..... Concord
Charles F. Nutter ..... Nashua
H. O. Smith ..... Hudson
Maurice A. Stark, ... Goffstown
J. J. Buckley ..... Milton
A. W. Petit ..... Nashua
G. P. Conn ..... Concord
C. S. Gilman ..... Boston
Robert J. Graves ..... Concord
Anna M. Littlefield ..... New London
George C. Wilkins ..... Manchester
G. B. Morey ..... Manchester
Elizabeth Hoyt Stevens ..... Concord
Oscar B. Gilbert ..... Concord
James T. Greeley ..... Nashua
J. E. Toye ..... Charlestown
George H. Clarke ..... Concord
James S. Black ..... Nashua
J. Z. Shedd ..... North Conway
Edmund E. Hill ..... Suncook
Clarence O. Colburn ..... Manchester
Zatae L. Straw ..... Manchester
Charles Duncan ..... Concord
Loren A. Sanders ..... Concord
A. Gale Straw ..... Manchester
B. G. Moran ..... Nashua
E. B. Atherton ..... Nashua
Eva M. Locke ..... Nashua

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M. A. Sweeney ..... Nashua
C. E. Butterfield..... Suncook
John G. W. Knowlton ..... Exeter
M. E. Kean ..... Manchester
W. A. Thompson ..... Manchester
W. F. Corning ..... Manchester
Joseph Taylor ..... Manchester
M. H. Towle ..... Concord
Russell Wilkins ..... Concord
Arthur K. Day ..... Concord
E. O. Crossman ..... Lisbon
Charles R. Walker ..... Concord
G. W. McGregor ..... Littleton
S. G. Morrill ..... Concord
W. P. Beauclerk ..... Concord
Chancey Adams ..... Concord
Lillian G. Bullock ..... Manchester
M. L. Bugbee ..... Concord
Walter C. Rowe ..... Andover
M. E. M. Flanders ..... Hopkinton
William H. Lyons ..... Manchester
John C. O'Connor ..... Manchester
John T. Murray ..... Manchester
E. B. Swett ..... Goffstown
S. J. Cogswell ..... Derry
H. L. Smith ..... Nashua
C. H. Babbitt ..... Nashua
P. J. McLaughlin ..... Nashua
A. B. Hoag ..... Sandwich
F. L. Keay ..... Rochester
J. H. Bates ..... East Rochester
C. M. Sneden ..... Littleton
J. E. Runnells ..... Glencliff
F. Von Tobel ..... Lebanon
A. W. Mitchell ..... Epping
George A. Weaver ..... Warren

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P. H. Greeley .....Farmington
Arthur L. Wallace .....Nashua
David W. Parker .....Manchester
Harry Edwin Mygatt .....Nashua
L. Melville French .....Manchester
H. D. W. Carvelle .....Manchester
J. B. Macdonald .....Concord
S. T. Ladd .....Portsmouth
C. W. Hannaford .....Portsmouth
L. V. Knapp .....Danbury
F. A. Bogardus .....Canaan
A. M. Fernald .....Sutton
Clifford Howland .....Bradford
Joseph Theriault .....Concord
Frederick N. Brown .....Providence, R. I.
O. B. Douglas .....Concord
James A. Leete .....Enfield
G. H. Greeley .....Merrimack
Oscar C. Young .....Charlestown
Gilman Thompson .....New York, N. Y.
A. W. Shea .....Nashua
E. G. Dearborn .....Antrim
W. P. Grimes .....Hillsboro
F. W. Grafton .....Concord
E. A. Landman .....Plaistow
A. S. Wallace .....Nashua
William Richardson .....Londonderry
E. E. Graves .....Penacook
F. P. Claggett .....Newport
George F. Munsey .....Suncook
Park R. Hoyt .....Laconia
H. C. Holbrook .....Penacook
A. C. Heffenger .....Portsmouth
S. R. Upham .....Claremont
C. Chirurg .....Manchester

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R. E. Gallinger .....Concord
J. F. Merrill .....Northwood
William M. Haggett .....Concord
D. E. Sullivan .....Concord

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BANQUET

The annual banquet was held Thursday evening, May 11, 1911, at 8 o'clock, at the Eagle Hotel, with a large attendance of members, guests and ladies.

Post Prandial Exercises

"To live is not a blessing, but to live well."
Seneca.

Anniversary Chairman, Dr. Greeley.

I

"Our State," The President, Dr. Wallace

"'Tis a maxim with me, that an hale
Cobbler is a better man than a sick king."
Bickerstaff.

II

"The State," Hon. Alvin J. Lucier

Lawyers and Painters can soon make black white.

III

"The Higher State" Rev. Mr. Soper

"Wait till you hear me from the pulpit, there you cannot answer me."
Bishop Gilbert Haven.

IV

"A Little Green Spot in the State," Dr. Elmer H. Carleton

"The best of prophets of the future is the past."
Byron.

V

"The Auto State," Mr. Dillingham

"Costs me more money than my share oft comes to."
Ben Jonson.

VI

"The Married State," Rev. Mr. Johnson

"Union gives strength by the humble."
Syrus.

"WE ONLY PART TO MEET AGAIN."

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President's Address

ALONZO S. WALLACE, M. D., NASHUA

Fellows of the New Hampshire Medical Society:

Custom demands that the retiring President of our Society should, at the close of his administration, deliver an address to the fellows. This custom is as old as our Fraternity, and I, as much as I would wish to, cannot be relieved of this duty. I might well hesitate and falter in the fulfillment of this task, did I not know that my words would be enriched by the sympathetic hearts of those, who know that neither the training nor the experience of the physician, tends to the highest qualifications for public speaking or essay writing.

The distinction that comes with the Presidency of an association like this, I assure you, is not an empty honor, but in this case, I fear, somewhat misapplied. However, I cannot let this occasion pass without expressing to you my keenest appreciation of your preferment when you made me President of an Association whose chartered existence on the 16th day of February last, covered a period of 120 years. An association, on whose roster are found the names of those whose services have been conspicuous in every important epoch in the moulding period of our civic history, and in every struggle at arms on land and sea, from a period prior to the birth of that great document of civil rights, The Declaration of Independence, to this hour.

I wish I could offer you something worthy of this occasion, commensurate with the intelligence and deserts of the brethren of my profession.

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My immediate predecessor in his admirable address, delivered one year ago on this occasion gave us an exhaustive account of the men who have stood in the front rank of the profession and whose services to the State and Nation have entitled them to historic fame. We love to dwell upon the character and services of these leaders, and like races, love to be judged by our achievements; and while I mingle my admiration and join with you in a common pride for the great representatives of our profession, and forgetting and eliminating our worthless few, I do not for a moment forget the faithful many, the rank and file, which make up a profession, which from the beginning of human history has done more to alleviate human suffering and pain and give substantial progress to mankind than any other of the learned professions. These faithful many are found in all localities of our diversified country, answering to the call of a mixed population of various nativities, seeking relief for all sorts and kinds of real and imaginary ills that have come to them from ignorance of sanitary laws, hereditary taint, improper course of living, accident, mistake, revenge, and other causes, too numerous to mention. These are maladies on account of which humanity ever suffers and from which they must have relief. But the severe castigation which the members of the medical profession have recently undergone in the report to the "Carnegie Foundation for the Advancement of Teaching," by Dr. Abram Flexner, classes the most of us as poor doctors without proper brains and inferentially says to us: "You should be among the industrious Dagos building railroad extensions on the western prairies for conveying a few rich men's sons to institutions richly endowed by the ill-gotten wealth of the predatory rich."

I have read with great care that very exhaustive and

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useful report bearing, as it does, evidence of extensive research and great ability in arranging and presenting data and details to carry conviction to its readers and hearers. But to one who knows, and has lived to quite an extent in the history of the inhabitants of New England and her medical schools and students, the report is too condemnatory and sweeping, and shows a failure to get down to mother-earth-needs of our modern existence. It is the swash from the ocean under-tow of wealth upon the rock-bound coast of what our progressive people know to be practicable. The report reminds one of the language of Emerson in treating of the future life. He says: "Whatever it is that the Great God has in store for us, it must be something large and generous and in the great style of His works."

Dr. Flexner, it seems to me, is engulfed, floundering in an ocean of imaginary possibilities of what wealth can accomplish for the teaching of medicine. He seems to whisper: "Whatever it is that Mr. Carnegie has in store for the medical profession, it must be large and generous out of the great style of his wealth."

But, my fellows, without detracting the slightest atom of the credit that is due the donor, and rejoicing with you in the vast benefit to humanity that must result from his beneficence, the report, if followed to its logical conclusion, in New England I am sure, would stop the production of a large class of young men physicians, who come forth, somewhat trained at least and scatter themselves in such places as their judgment directs they can be useful in; and they remain as long as the demands of the community in which they settle are attractive to their ability, skill and service.

The great law of supply and demand, here as elsewhere, must and will direct and execute its unalterable decrees. That there are too many physicians, I deny.

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That there are too many ill-trained ones, is painfully evident.

I would suggest that Mr. Carnegie out of his vast wealth create a fund for the better equipment of these weaker institutions, that the source of knowledge and information may be more universally disseminated and kept near to a large class of our aspiring and worthy American boys.

The Carnegie "Foundation for the Advancement of Teaching" is a boon to our people and to all humanity such as has never blessed any former generation since the dawn of civilization. In its far-reaching endeavors it seeks to improve and advance the methods of instruction, to stimulate educators to a more zealous devotion to their work, and, I have no doubt, to disseminate knowledge, as broadcast as possible; and the great financial resources provided, brings to its service the best minds of our age.

Bulletin No. 4 of the "Carnegie Foundation for the Advancement of Teaching" deals with the single branch of medical education, and it attacks with vigor, and in some cases with spleen, our smaller institutions for medical instruction. In speaking of the medical schools of Maryland, it volunteers the statement, that such "unconscionable concerns should at this day continue to flourish, is a blot upon the State of Maryland and the City of Baltimore." This language stimulates Dr. Charles O'Donovan, a member of the Faculty of the Board of the Baltimore Medical College, at a meeting of the New England Alumni of that school in Boston, in reply to a toast: "The future of the Baltimore Medical School," to retort as follows:

"You have within the past few days read the Bulletin issued by the Carnegie Foundation, in consequence of

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Dr. Flexner's report on the medical schools of the country. That Bulletin is unfair in many respects both to teachers and to schools which have been doing eminently good work.

"It is nothing more nor less than a threat against unendowed institutions. It is an effort to hurt such schools in the opinion of the public, and to eventually drive them out of business. It goes without saying that this Bulletin demonstrated that the Carnegie Foundation considers itself the sole arbiter of where medical schools shall be established.

"Dr. Flexner even goes so far as to publish a map showing the spots where he has decided medical schools shall hereafter exist. The least I can say about the Bulletin is that it is an outrageous piece of impudence on the part of men who have never in any way sought to extend aid of any kind to unendowed institutions."

Another result of the report is a suit for $100,000.00 damages, instituted by the St. Louis College of Physicians and Surgeons against Dr. Henry S. Pritchard, President of the Carnegie Foundation.

I certainly sympathize with these smaller institutions that have been so severely assailed, and I am not prepared to say that the trend of the report is not radically wrong. The only recognized aristocracy of our day is that of character and intellect; and wherever a man of either the learned professions possessing these qualifications seeks his abode, the community in which he settles is blessed, and the more of them there are in any community, the more, proportionately, is that community blessed.

I want to emphasize the fact, that the more physicians of character and intellect we have, even if the intellect has not received the highest training of university routine, the world is the better for their existence.

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I am not one of those ready to admit that all have gone money-mad, nor that all physicians are merely mercenary, seeking the profession for what there is in it, so to speak, regardless of the consequences of his labors upon his fellowmen. I know many instances, and I dare say each of my brother physicians can say the same, where the presence of one or two physicians of unblemished character, good intellect, partially trained, if you please, is a benefit and blessing to the community in which they live, and that these communities would probably be deprived of these noble and true men if the medical schools were to be located and conformed to Dr. Flexner's idea.

The sparsely inhabited communities do not attract the highest skill, and the highest skill and the highest training, as our human nature is today constituted, calls for compensation beyond the means of many of our localities, and to my mind, the man of character, even with less skill and training, located in a community that is segregated from the great cities and centers, who is in close touch with his people, answering to their calls, teaching the elements of the health product, the necessity of cleanliness and a thousand and one things that they could never know but for him, is doing a service that is by no means menial, a worthy service to a worthy people, and he finds his reward and compensation, if from no other source, in the words of the Son of Nazareth: "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me."

I did not intend to say so much on "Bulletin No. 4 of the Carnegie Foundation." It is indeed a great and exhaustive report, emanating from a source and destined if rightly managed, to become of great service to the cause of education and a lasting benefit to mankind for all coming time. Let us study it carefully and with

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unprejudiced, and open minds, to the end that our conclusions may assist, in some slight degree, the task it has undertaken.

We love our profession and are loyal to its tenets, and whenever unjustly assailed it is natural for us to retort against unjust attacks and groundless accusations. From my present view of the situation, there are few medical schools in New England that I would eliminate and if the number of physicians is now too large, the process of reduction should be brought about, not by diminishing the number of medical schools and congregating in great centers richly endowed institutions for medical education, but by strengthening existing schools, enlarging the facilities for instruction, keeping their lights burning and the good they do on the increase, for the men who graduate therefrom are useful men, for the training they receive makes them better for their profession, better even for a mechanic, should they choose to become such, and more useful citizens. Raise the requirements for admission, elevate the standard of work; set forth greater inducements for excellence, make the diploma a more meaningful document; make the requirements for the right to practice medicine and surgery more exacting, and greater accomplishments will result therefrom, and the sources and facilities for education will remain unrestricted and accessible.

I am a firm believer in exacting requirements, in increased qualifications for practice and in the thorough weeding out of the unworthy, but I do protest against extinguishing a single fire of educational usefulness, that is doing a creditable work among us.

It may be that all along the line, we have failed to hold sufficiently high the standard of our professional requirements. It may be, and no doubt is, that in our own schools our requirements for our admissions and in our

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official recognitions, we have become remiss, lax, and blame-worthy, and even in our Associations, local and State, we may come in for censure. But let our reform begin with great care, and proceed upon sane and conservative lines, seeking to improve rather than to destroy, and to build up rather than to tear down. However let us bear in mind that every institution for the advancement of science and the promulgation of education, in every line of human improvement, is of great assistance in uplifting the intelligence of a mixed and growing people, whose average well-being is greater than that of any other nation on the globe.

Apart from our individual work and worry, we have a duty to perform to each other, as exacting and as binding upon us as our greatest work. We must always be ready to lend a helping hand, no matter what the call, nor when it comes. Whenever our professional brother is in need of help we should be ready and willing to respond immediately and not be like the young man of whom I heard recently. Here is the story as it was told to me:

In the northern part of our state there is living a hard-working, conscientious physician, who has a large country practice. Not long ago he was called to a case in the night, which proved to be so serious that he needed help with which to bring relief to the sufferer; and he called up a young man, located in one of our leading cities, a graduate of Harvard, recently established in practice, and asked him to come to his assistance, but the young man demurred—he "didn't go out nights—no, he didn't think he could come."

Now I cannot conceive of a young physician, nor an older one, for that matter, so selfish or so lost to a sense of duty or responsibility that he would not respond to such a call for help, whether it be in the night or day, for compensation or no compensation. May their number

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be few. He had evidently lost sight of the fact that success is ever found in the professional pathway of patient, honest, faithful labor, administering to the needs of suffering humanity, and alleviating sorrow and pain wherever or whenever the call may come, and in many cases with great self-sacrifice.

I would emphasize one other thought that comes to my mind as I view the past, feel the present, and anticipate the future; the last quarter of a century presents to view a most marvelous development in our material interests; and shows that the descendants of that small company that set out from Delfthaven, Holland, in 1620, and established a government formed on new and original principles, have become in rank, in many respects, the most remarkable people on the face of the globe. I need not amplify nor enlarge upon this wonderful development of our race; every man knows it, and every thoughtful man knows the defects that show themselves in the onward march of this great nation. I think, however, we are begining to see and understand that great truth, that "man cannot live by bread alone," there is something required of us before the great tribunal of conscience and eternal justice besides a "fat pocket-book." If there is a God—and that there is "all Nature cries aloud in all her works"—then humanity belongs to Him, and the family of man recognizes the Fatherhood of the Eternal; and the chiefest among men, in conformity to the biblical truth that, "he who would be chief, let him be your servant," must be the one who is rendering the highest and best service to his fellowmen, and this, regardless of price or compensation. The great law of service to humanity is not yet repealed, nor altogether forgotten; our duty as professional physicians is first to our fellowmen, in point of service to them.

And I believe our profession stands first in the line of

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this service, not excepting even the ministry itself. The unrevealed service performed in the line of sacrifice without compensation or hope of reward, is not and never will be known and, what is most beautiful of all, the profession does not clamor or wish it to be known. But occasionally there comes to the surface an incident of touching significance after the faithful benefactor has performed his task and passed to the great Beyond. A case in point is a letter from the New York Post regarding the late illustrious surgeon, William T. Bull. It reads as follows:

"Not only was Dr. Bull one of the greatest operating surgeons that ever lived, but what a man he was!" The following will illustrate what I have in mind:

"Shortly before he was stricken with his fatal illness, a young East Side physician called at his office, and said that he was attending a poor girl over in his neighborhood who would surely die unless operated on. The family was too poor to pay, and the doctor did not feel that he was equal to the operation. Would Dr. Bull give him a little advice as how to proceed?

" 'Well, I guess we had better go and take a look at the case,' said Dr. Bull, putting on his coat.

"They found the patient in an East Side tenement, and in less time than it takes to tell it, Dr. Bull had the room cleared and began the operation.

"When he was leaving, the father of the girl met him in the hall and forced a quarter into his hand. Dr. Bull thanked him and went off feeling as happy—happier than if he had received a thousand dollar fee. The girl got well.

"This is but one instance of that sort of unobtrusive human service which reflects honor, not only upon Dr. Bull's memory, but also upon the profession, of which it is characteristic."

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There is one other matter most worthy of mention to which my attention was called too late for me to say much about it in this paper. However, I feel that it is of too much importance to the profession to let it go by without placing it before you for your consideration, and that—is the report at the last annual meeting of the American Medical Association, of the committee on Relief Fund and Tuberculosis Sanitorium for Physicians, which is to be found in full in the American Medical Association Journal for June 18, 1910, page 2081.

I hope that the members of this society who have not already read the article will do so and seriously consider it; for I see no reason why we should not assist our unfortunate and worthy members who have worn themselves out in the labors of the profession. Our lives are one series of exposure to contagious diseases of all kinds, and it is no more than right that some provision should be made for those who have been unfortunate financially through sickness, and especially those who have become threatened victims of that dread disease, tuberculosis.

I have in mind, at this time, the case of a young man who contracted the disease, after graduation, while working in a hospital laboratory in New York City. He went West as soon as he was aware of his condition, bought him a horse and saddle and practiced his profession by taking long rides in a mining section of country, hoping to pay his way and regain his health by the means. But the long trips and necessary exposure were too much for his constitution and no doubt brought about the hemorrhage which ended his life. If there had been a Sanatorium supported by the Profession and benevolent people to which he might have gone in the first of his trouble, without doubt his life might have been prolonged or possibly he might have been radically cured.

I do not wish to take any more of your time, but I do hope that this Society will consider this matter seriously,

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and if they think best, appoint a Committee for taking some definite action at this meeting so as to bring it before the public, for we cannot expect the laity to help us in this matter unless we first help ourselves.

My feelings here prompt me regarding those who a year ago were here with us, but have since passed on, to say a word in addition to what the regular committee may say of them. The places made vacant by their departure fill our minds with a melancholy pathos that we should not lightly pass over, and call up a memory that we should not willingly let die. They were capable, faithful devotees of their profession and respected members of this Association, and it may well be said of them, that they followed the directing sentiment of that rugged poet, Bryant, who at the age of eighteen years, wrote:

"So live, that when thy summons comes to join
The innumerable caravan that moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

Let me add in closing, that we are fortunate in this harmonious gathering of our professional brethren, with the spirit of brotherhood and good cheer hovering about us, and in a fraternal loyalty which teaches us that we owe each other a duty such as the members of no other profession owe to their fellows. In our daily intercourse with one another, we can lessen the burden of each by holding up our brother's hands, and in being to him an assistant and helper, we at the same time lift ourselves to a higher plane of duty.

Again I thank you for this great honor, and assure you that the pleasure and profit of this gathering will linger long with me as a spur and stimulus to more earnest devotion to our beloved profession.

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Clinical Experiences with Sera and Vaccines.

W. GILMAN THOMPSON, M. D.

(Professor of Medicine, Cornell University Medical College in New York City.)

The use of sera and vaccines in the treatment of infections is so rapidly extending that it is difficult to keep informed as to their relative importance and practical value. While some of these preparations are now universally admitted to outrank all older therapeutic measures in potency and reliability, others are as yet in a purely experimental stage, some have proved disappointing, and all present many unsolved problems as to details of technic. For these reasons I have thought that a statement of personal experience with many of these methods of modern therapy might prove of interest to the members of this society.

I have had exceptional opportunities in the wards of the Presbyterian and Bellevue Hospitals to study the clinical administration of sera and vaccines, through the co-operation in both institutions of an enthusiastic and well qualified laboratory staff. In my Bellevue service, especially, it is possible to enlist the services of the workers in a number of different University Laboratories, such as those of Clinical Microscopy, Bacteriology, Bio-chemistry and Serum Therapy. These experts have access to the wards at all times, and periodically make

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ward rounds with me to discuss the effects of the remedies which they supply. In the Out-Patient Medical Clinic of the Cornell Medical College also, we are experimenting with the serum and vaccine treatment of ambulatory cases, particularly of exophthalmic goitre and chronic gonorrhoeal infections. With this word of introduction I will proceed to a discussion of illustrative and selected cases.

Flexner's anti-meningo coccus serum is certainly miraculous in its curataive effect in cerebrospinal meningitis of that origin, and it is so reliable that it is my custom not to wait for bacterial report upon the spinal fluid but to inject the serum at the same time that the tapping of the spinal canal is made, for, like the diphtheria antitoxin, the beneficial effects are directly proportional to the promptness with which the injection is made after diagnosis is established clinically with reasonable certainty. I have several times given it in cases which subsequently proved to be due to the pneumococcus. In such cases, of course, owing to its specific nature, it has no control, but neither does it produce any untoward symptoms.

A Greek lad came into Bellevue Hospital a few weeks ago with cerebrospinal meningitis, with maniacal delirium, which passed into coma. A few hours after admission 60 cc. of purulent fluid were aspirated from the spinal canal, and replaced by 45 cc. of serum. Next day his temperature and opisthotonos were both diminished, on the second day he regained consciousness, on the fourth day his spinal fluid was clear and on the sixth day it was free from all cocci. On the ninth day he was walking about the ward. He received in all 5 injections of serum, the first three of 45 cc. each, the others of 30 cc.

Another young Greek, who chanced to enter the service on the same day, (both cases were in Dr. Meara's

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division of our service) had well-marked symptoms of cerebrospinal meningitis and also received five injections of similar character. He rapidly improved and within five days his meningeal symptoms had entirely disappeared, excepting slight stiffness of the major joints and extremities, and his temperature was normal. For about a week afterward, he had a slight serum fever of two degrees and painful joints, from which, however he soon recovered.

A young man entered my service in the Presbyterian Hospital last autumn with fully developed symptoms of cerebrospinal meningitis, and in maniacal delirium with a temperature of 104° F. 60 cc. of purulent fluid were withdrawn from the spinal canal and 45 cc. of Flexner's serum were injected. The following day the patient was rational, the opisthotonos was gone and the temperature fell to almost normal. On the two succeeding days 25 and 48 cc. of spinal fluid were withdrawn, and replaced in each instance by 45 cc. of serum. Although the temperature remained normal on the sixth day of the disease, there was considerable muscular rigidity, and a fourth dose of 45 cc. of serum was administered. This was followed next day by a considerable serum reaction and an irregular fever of 100° to 103° F. lasted until the fourteenth day of illness when the patient was entirely cured. During this period of serum reaction two eruptions appeared. The first was of the ordinary urticarial type lasting from the tenth to the twelfth day, when the second eruption developed. This closely resembled the initial eruption of variola. Small hard discrete dark red papules appeared on the exterior surfaces of the forearms, the shoulders and ankles. Some of the papules became vesicular, and a few became confluent, but none proceeded to eruption. As the eruption seemed unique, I invited Dr. Flexner to see the patient, and he

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said it was the only case of this type which he had met with following the use of his serum. It completely disappeared in four days. There were no joint symptoms, as in the preceding case,, but the patient was much cyanosed, so that at one time we feared anaphylaxis had been induced.

In a fourth case, that of a young child, initial deep coma and rigid opisthotonos gave place, two days after the serum injection to consciousness and relaxation, and on the sixth day micrococci had completely disappeared from the spinal fluid.

Each of these four illustrative cases was treated on the second or third day of the illness.

A fulminating case was brought to my wards a few weeks ago. The young man was found engaged in ripping up the furniture and curtains in his room in maniacal delirium. He was cyanosed and nearly pulseless on admission on the second day of his illness. Serum was given, but he died within a few hours.

2. Tetanus

One of the earliest cases in which I ever employed an antitoxic serum was one of tetanus in a man seen a number of years ago at the Presbyterian Hospital. His body and limbs presented boardlike rigidity, and the jaw was so rigid that we were obliged several times to chloroform the patient in order to relax the muscles sufficiently to permit the insertion of an œsophageal tube for feeding. After two or three injections of serum he began to improve and in time completely recovered. In a second case the antitetanus serum furnished by the New York City Department of Health produced strikingly favorable results. The patient was a vigorous young man who was brought to Bellevue Hospital in a condition of extreme general rigidity with opisthotonos, and a temperature of 104° F. which subsequently reached 105°

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F. Although not often found in such cases, the tetanus bacillus was obtained from the patient's blood. He was at once given 3,000 units of tetanus antitoxin, the dose being repeated each day for three days, when it was reduced to one half, and within 48 hours the patient was greatly improved. His rigidity rapidly lessened, opisthotonos disappeared and the temperature ranged between normal and 102° F. The pulse, which had been critically feeble on admission, gathered volume and force. Two subsequent temperature elevations and a slight persistent rigidity in the muscles of the back and legs, led to further doses of antitoxin of smaller amount (750 units), so that in all ten injections were given, nearly all of them intravenously, in a period of 17 days, after which the recovery became complete. In all 19,500 units were used. I have never seen a recovery from tetanus in anyone else who was in so precarious a condition as was this patient prior to the injections, and their effect after two or three days became very striking.

3. Anti Rabic Serum

My experience with anti rabic serum is limited to two most unfortunate cases both of which ended fatally from the so called "laboratory rabies," a form of acute ascending spinal myelitis. The first case was that of a colleague who was performing an autopsy on the body of a man supposed to have died from rabies. The laboratory servant in sewing up the cadaver, pricked his finger. He was taken by the pathologist to a "Pasteur Institute" for treatment. While there the pathologist, who was noticed to have a tuberculous wart on his finger, was urged to take the treatment which he did for several weeks, during which he became progressively weaker and had a low grade of fever. He became paraplegic and the ascending myelitis finally reached the level of his intercostal nerves. Great dyspnoea ensued,

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and finally artificial respiration was performed for 48 hours, when the origin of the phrenic nerves was reached by the lesion and he died from apnœa, retaining consciousness until the end. An autopsy showed an acute myelitis. The laboratory servant escaped without harm. It was subsequently proved that the original patient was never bitten by a dog, but by a horse, and had acquired septicaemia. The second case I saw in consultation. The patient had supposedly been bitten by a mad dog, and for two weeks had been given anti rabic serum by his physician. I found the patient markedly dyspnœic with absent leg reflexes and commencing paraplegia. Recalling the first case, I gave a fatal prognosis and two days later the patient died from apnœa. It was subsequently found that the dog did not have rabies. A third fatal case of laboratory myelitis was reported as occurring in New Jersey last year. The child of a friend who was a physician, died a few years ago from genuine rabies, the anti rabic serum having been given without benefit.

4. Typhoid Anti Serium

A typhoid anti serum was used at the Presbyterian Hospital a few years ago, but as the results were entirely negative we abandoned it. I lately recommended for use among the nurses there, the anti typhoid vaccination, obtaining the vaccine through courtesy of the Surgeon General's Office in Washington. Prior to this we have had a number of cases develop from time to time among nurses in charge of typhoid patients. A very serious one occurred in my service last December. It is, however, premature to report any results from the vaccine. Its use has been favorable at the Massachusetts General Hospital, and the reports from the British and American Army services are most encouraging. The prophylactic dose is 0.5 cc. for the first vaccination, to be followed by

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1 cc. 10 days later, and a third dose of 1 cc. after a further interval of 10 days. The site of inoculation preferred is at the deltoid insertion, and the injection is subcutaneous not intramuscular. The resulting reaction is very slight, usually being over in a few hours, being comparable to the reaction of prophylactic diphtheria antitoxin. There is a very slight local reaction, slight headache and malaise. In about three per cent of cases the reaction is more severe, with vomiting, herpes, and backache, but no more serious effects have ever been observed. The duration of the immunity conferred is not accurately determined but it is probably as long as that acquired by an attack of typhoid fever. More antibodies are often produced than after clinical typhoid.

The results of the preventive inoculation, according to a report of Lieut. Col. F. R. Keefer, U. S. A. in the Army Medical and Surgical Journal of March 1911, are as follows: In the German Army in Southwest Africa in 1904-1907, a reduction of the typhoid rate by 50 per cent. In the British East Indian Army in 1908, after 6,000 men were vaccinated, comparison was made with an equal number of unvaccinated troops. There occurred seven times as many cases among the unvaccinated as among the vaccinated, and the deaths were in the proportion of eleven unvaccinated to one vaccinated case. In our own Army among 13,000 vaccinated soldiers only five cases developed, four being so mild as to be of doubtful diagnosis, as against 418 cases in all the remainder of the army, or a ratio of 14 to 1.

5. Hodenpyl Anticarcinoma Serum

The Hodenpyl anticarcinoma serum does not appear to have justified the hopes which were at first entertained of its effects, at least I am so informed by colleagues who employed it. As both its discoverer and the original patient have since died nothing more is to be

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expected from it, although it appeared to exert a certain controlling or inhibitory influence over both sypmtoms and malignant growths for a short interval. In a case of hepatic carcinoma with ascites, Dr. Beebe aspirated some ascitic fluid for me, which, was reinjected in the patient, but without result. In an interesting review of autoserotherapy by I. I. Lemance of New Orleans, published in the Interstate Medical Journal for April 1911, he tabulates, chiefly from foreign sources, 309 cases of pleurisy and of ascites in which this method was used. There were 75 failures which included nearly all the cases of ascites, and there were 232 cases of non-pleuritic effusion in which complete or partial success was reported, amounting to either complete or partial resorption of the exudate, and sometimes cure. Some of the reported cases, however, appear to reflect chiefly the enthusiasm of the clinician, and it should be remembered that many of these cases improve or recover spontaneously in time. This method, instituted by Gilbert in 1894, is based upon the theory that in tuberculous pleurisy, the exudate contains a very dilute tuberculin, which, when reinjected in doses of 1 to 10 cc. beneath the skin of the thorax as the original aspirating needle is withdrawn, practically administers an autocthonous tuberculin treatment to the patient. One striking effect of this procedure is a marked diuresis, which in part explains the subsequent resorption of the exudate. Most among those clinicians who have used it agree that the method is wholly free from hazard but Tschigaeff had serious results with several patients, such as chills, fever and dyspnœa. A few favorable cases treated by this means have been reported from the Mt. Sinai Hospital in New York, and we have tried it in several cases in Bellevue Hospital, but without noticeable result.

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6. Tuberculin Injections

Tuberculin injections in very small repeated doses have proved strikingly beneficial in several cases of tuberculous adenitis of the neck and in one of tuberculous peritonitis which I have lately seen. One patient, a girl of 20 years was under treatment by Dr. T. W. Hastings in my wards for nearly two years. On admission the glands were so large and hard that they were compressing the trachea, causing dangerous dyspnœa. The enlargement had passed the bounds of justifiable operative interference. The dyspnœa was entirely relieved after a short period of treatment, and the neck measurement was reduced from 17½ to 15½ inches. Menstruation which had been absent for seven months, returned. The opsonic index finally showed over-stimulation of the blood, and the daily injections were suspended for a week. Several times after treatment was suspended the glands became more swollen and treatment was resumed with benefit. On one occasion Dr. Hastings being absent for several weeks, the treatment was intermitted. when the glands again caused dyspnœa. This was relieved by further use of the tuberculin and the patient finally left the hospital practically well, although some of the glands remained slightly enlarged and hard.

A man with tuberculous peritonitis entered my wards last January. The abdominal wall was rigid, edematous and very tender. There was diarrhœa, much abdominal pain and much emaciation with slight fever. There was evidence of tuberculosis in one lung, in a moderately advanced stage. After three or four weeks of tuberculin treatment the abdominal symptoms had all disappeared and the patient so far recovered as to resume a fair degree of activity and gain some increase in weight.

I regard the tuberculin test in milligram doses for

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suspected latent tuberculosis of the viscera and joints as of the greatest diagnostic aid, at least on its positive side. A temperature reaction of from one to two degrees starting from the normal, accompanied by the characteristic malaise, and repeated two or three times after successive normal intervals, almost never leads to error in interpretation.

7. Colon Bacillus Vaccine

With colon bacillus vaccine in cases of pyelitis I have had very favorable results, but in common with others, have failed completely to remove the bacillus from the urine by this treatment. Several cases which I have seen within the past two years have been practically cured of all general symptoms after protracted irregular fever. One of them is that of a man still under observation who had an irregular septic type of fever which was quite puzzling for two or three weeks until the bacillus coli was found by Dr. Boehm in the urine. He had a temperature which at first ranged to 104 F. with great prostration and bilateral lumbar pain. No renal enlargement or tenderness was demonstrable. In this case urotropin was given (5 grains t. i. d.) as soon as the bacillus was found, and while waiting for a vaccine. The temperature at once began to fall, so that by the time the autochthonous vaccine was prepared, the patient was already improving. Subsequently the urotropin was discontinued and the vaccine was given but the colon bacilli are still present in the urine, although the patient has been practicaly well for several weeks. The initial dose was 50 million bacilli, repeated every four days, each dose being increased by 25 million, so that at present he is receiving 250 million. No reaction of any kind followed the injections.

8. Pneumococcus Vaccines

Dr. Walter L. Niles has been experimenting in my

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wards for the past two or three years with vaccines in pneumonia. About 125 cases have been thus treated, a few with autocthonous vaccines, and the majority with stock vaccines. The average hospital pneumonia patient does not enter the hospital before the third or fourth day, a day or two more may elapse before he raises sputum suitable for an autocthonous vaccine, and it requires 48 hours more to prepare the vaccine. By this time many cases are ready to defervesce naturally. Hence the necessity of using stock vaccine, kept always ready. We are agreed that neither form of vaccine has had any very marked effect upon the course of the disease in ordinary or average cases, but in a number of cases with prolonged symptoms, or retarded resolution, there seems to have been some moderate betterment from the vaccinations and, moreover, the death rate in the vaccinated cases has been somewhat lower than the usual pneumonia death rate in the same wards, where many cases are complicated with alcoholism, arterio sclerosis, myocarditis, nephritis and other lesions common among the neglected poor. I cannot conscientiously speak with enthusiasm of this form of vaccine, but the experiment is worth trying, it is at least harmless, and perhaps with modified technic may sometime yield more beneficial results. One case was of special interest, the pneumonia being not of pneumococcus type, but due to a systematic infection by the micrococcus catarrhalis. The patient was a colored boy of 14 years in Dr. Meara's service, and shown in my Clinic. The attack began with severe suppurative tonsilitis; there were joint pains, herpes, and consolidation which successively involved all the pulmonary lobes excepting the left upper lobe. Leucocytosis reached a maximum of 66,500 with a polynucleosis of 87 per cent. There was much pleurisy with moderate exudate. After three weeks of fever of irregular septic

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type which ranged up to 104° F. the patient was extremely exhausted. The micrococcus catarrhalis was found in the sputum, and he was given five vaccinations of respectively 350, 440, 440, 102 and 202 million germs. He soon began to improve, the lungs cleared and he completely recovered. The case is of unusual type for pneumonia is rarely caused by this otherwise common germ.

9. ANTIGONOCOCCUS SERUM AND VACCINE.

Anti gonococcus serum and vaccine. Our experience with chronic gonorrhœal joint infections, both in Bellevue Hospital and in my Clinic in the Cornell Medical College Dispensary has led to the substitution of stock vaccine for serum as proving uniformly more effective. It is a very satisfactory vaccine although often slow in operation. We employ it in practically every case, often with most convincing results. Dr. S. P. Beebe and I have lately been experimenting with a supply of vaccine sent for trial by Dr. Philip King Brown of San Francisco. Dr. Beebe also made a similar vaccine with which he has supplemented the original supply. It was a sort of "shotgun" preparation made as a vaccine with seven different kinds of germs, about 50 per cent. being strains of gonococci with pneumococci, streptococci, staphylococci, the erysipelas germ and others added. The germs are all filtered from the fluid before use, and the injections, of from 6 to 10cc., are given intravenously. It produces a most vigorous reaction with a rise in temperature of four degrees, chill, headache and general body pains, which lasts about twelve hours. In one or two cases of pneumonia, it produced such an alarming response that we have hesitated to repeat it in that disease. We have thus far had opportunity to try it in very few cases. In one or two of arthritis deformans in an acute phase, and in one of acute rheumatism, it was disappointing, but in a case in which the patient's blood

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gave a complement-deviation test for gonorrhœa, the result was very satisfactory. The patient had had chronic joint inflammation of gonorrhœal origin for several years. His ankles were so swollen and stiff that neither active nor passive attempts at motion could flex or extend the feet. Within 24 hours after the first injection, one ankle which had previously been twice incised to evacuate pus, showed considerable motion, and, within a few days more, both ankles were freely movable and nearly normal in size. A subsequent fluctuating bursitis in both knees disappeared after further injections and the patient's general condition showed great improvement. He received about 10 injections during a period of three weeks, evincing a diminishing reaction to them.

10. Septic Endocarditis and Pyemia

Two years ago I reported to the Association of American Physicians (Trans. Assoc. Amer. Phys. 1909.) a series of cases treated with homologous vaccines in streptococcus and staphylococcus cases of septic endocarditis with one of pyemia. The vaccines were made strictly in accordance with the method described by Sir. Almroth E. Wright, (Trans. of the Harvey Soc. 1906.) Three cases of streptococcal endocarditis in which the germ was derived from the patient's blood cultures, terminated in recovery.

In a number of other cases the vaccine acted favorably to the extent of bringing the septic temperature to normal and making subsequent blood cultures sterile, but death ensued from various complications which could not be influenced by the vaccinations such as nephritis and tuberculosis. In several cases of pyemia very satifactory results were obtained. In one of them originating in a staphylococcus infection

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of the finger, there was cellulitis in both hands, a purulent knee joint, bronchopneumonia, pyonephrosis, and an abscess above the left shoulder from which a dozen ounces of pus were evacuated. The patient subsequently received four subcutaneous doses of autochthonous vaccine, three of 100 million each and one of 200 million. One day a few months afterward, I was passing a trench in the street where a man was at work upon gas pipes. A voice from the pit said,"Hello Doc, is that you?" and there was the former patient at work!

In a number of septic endocarditis cases I also tried the polyvalent stock vaccines, but with uniformly negative result.

The Rogers-Beebe exophthalmic goitre sera have interested me especially, for in an extensive experience with them I have seen many very remarkable results, including a few phenomenal cures in patients who were apparently *in extremis* and a larger number who have been temporarily greatly benefitted. This form of goitre is exceedingly complex, and the sera have to be especially adapted for each case. In some cases Beebe's thyroid nucleoproteids are indicated rather than the sera . It would prolong this review to unreasonable length to discuss this subject further, and I have elsewhere reported many of the cases. (A clinical study of 80 cases of exophthalmic goitre, Amer. Jou. Med. Sci. Dec. 1909.) I always employ with Dr. Beebe one or other of these methods, in a case of exophthalmic goitre, and in many cases, although not invariably, subsequent operative measures are avoided, for marked improvement, if not cure, may result.

I have omitted from this review, mention of sera and vaccines, such as the antistreptococcus vaccine against scarlatina, and other bacterial preparations with which I do not happen to have had experience, in the belief that personal impressions with a few illus-

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trative cases would be more interesting than statistical complications.

In conclusion I have found (1) the treatment by either sera or vaccines most dependable in cerebrospinal meningitis, chronic gonorrhœal infections, certain streptococcal and staphylococcal infections such as septic endocarditis and pyemia, in colon bacillus pyelitis, exophthalmic goitre, and tuberculous adenitis.

(2). In other diseases, such as pneumonia, typhoid fever, carcinoma and pleurisy with effusion their value has not yet been clearly demonstrated.

(3) Several of the sera and vaccines produce a slow, although fairly reliable response. The natural tendency is to push their use too rapidly or continue it too long, and I feel that I have made mistakes in this direction. It requires muc' time and careful study to obtain the best results, and much depends upon the skill of the laboratory expert. Many of the details of serum and vaccine preparation require great experience and vigilance, and favorable results are more dependent upon these qualities than in any other form of therapeutics.

(4) Excepting the gonococcus vaccine, the meningitis antiserum, goitre sera and of course diphtheria antitoxin the autochthonous bacterial preparations are decidedly preferable to stock material when they can be obtained.

Admitting the value of these methods of treatment for certain cases, the question may well be asked, how is the general practitioner in the country to avail himself of them? Their actual administration is a simple matter. The difficulty lies in the technic required in making blood cultures for diagnosis and in obtaining material for vaccines and sera. This is highly expert work. The stock vaccines, it is true, may be supplied from a distance, but it is not so with the autochthonous vaccines. A suggestion to meet this difficulty would be the establishment

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of a certain number of small clinical laboratories in different counties, which might easily be combined with a minor hospital, the institution to share in the maintenance expense, including the salary of a competent laboratory worker. The remainder of the expense could be met by the fees from practitioners who could not only employ such a laboratory for serum and vaccine work, but as an aid to diagnosis in the many clinical laboratory tests which are daily becoming more numerous and complex. I have seen such a laboratory supported in this manner in a small town in the center of New York State, which has proved most successful. It meets the wants of a small hospital of 60 beds, as well as those of the practitioners of the entire county, and is satisfactorily maintained at very moderate expense.

DISCUSSION

JOHN G. W. KNOWLTON, M. D., EXETER

It certainly is a great pleasure to listen to Dr. Thompson's experience with the sera in the different infectious diseases that are bad from the general practitioner's standpoint. I have not had any experience with either vaccines or sera in the bad infectious diseases. My only experience has been in the mild infections, at which times I sent to the laboratory in Boston in preference to getting any of the stock vaccines that are on the market. Personally, I have a feeling that I do not care to try them. I would rather have vaccines that I am dead sure are made and put up and looked over by a good competent expert in laboratory work. I am interested to know that Dr. Thompson feels pretty certain that the epidemics of spinal meningitis are being affected by the serum. That of course has had a good try-out for the last three years, and it is nice to feel that we have something to use in the menigitis. Personally, I believe in

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serum and I tell my patients the thing to do is to have the serum given in menigitis of the epidemic type. The only infection that I have seen that has pleased me by Boston has been doing on diseases of the teeth where the action of the vaccine is some work that Beebe in the teeth get loosened; it is the common cause of false plates and going to the dentist. There was a case in my own family where I first commenced to try it. Instead of going to the dentist two or three times a year for scaling; the last two years he has been once a year and there was very little to do. In another case the man actually could not hold his pipe in his teeth, and after three injections of vaccines he held his pipe and he didn't have his teeth out, and he goes around and has them cleaned once a year and gets along all right; so that my clinical experience is that the vaccines are all harmless to give, as I understand, and there is no great chance that you are taking when you give the ordinary quantity.

SIBLEY G. MORRILL, M. D., CONCORD

I think the subject has been well covered, and the only thing I can say is that a good many men in the society do not know that we have these vaccines made in a laboratory here in Concord.

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Anal Fissure

CHARLES S. GILMAN, M. D., Boston, Mass.

Surgeon to the Rectal Department at Mt. Sinaii Hospital

The choice of a subject for this paper was decided upon after an analysis of sixty-eight cases which have been referred by other physicians and surgeons as hemorrhoids, and where, upon examination, anal fissure was found to be the primary disease for which relief was sought.

In twelve cases (17.6 per cent), hemorrhoids were present as a co-existing condition, and the so-called "sentinel pile" was present in forty-two cases (61.7 per cent).

In forty-six cases (70.5 per cent), the patients stated that no physician had ever made an examination of the region, and in seven cases (1.03 per cent), the examination by the family physician had been attended with so much pain and discomfort that the patients were filled with fear and dread at the prospect of going through such an ordeal again.

In twelve cases (17.6 per cent), a diagnosis of hemorrhoids had been correctly made, but the anal fissure had been overlooked, while in three cases (.4 per cent) malignant disease co-existing with fissure was found.

From these cases, it is concluded that although anal fissure is a comparatively common disease, yet many cases are not discovered by the general practitioner,—perhaps on account of a diffidence in suggesting a local examination, or on account of false modesty, or a dread of an examination on the part of the patient.

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Most patients diagnose their own rectal ailments, and, in a vast majority of cases, the diagnosis is "piles." The physician empirically prescribes some "recommended" ointment or suppository for the condition which affords, at the best, but temporary relief, and the disease goes on unrecognized until it gets to that point where usually surgical interference is necessary.

While anal fissure may be considered by some as of too slight importance to be worthy of extended consideration and discussion, still there is probably no pathological lesion, so limited in extent, which causes so much discomfort and distress.

History

Very accurate descriptions of the symptoms and suggestions as to the correct methods of the treatment of anal fissure have been given to the medical profession since the time of the ancients. This disease, however, did not receive the consideration which the severity of the symptoms would indicate that it deserves until after Boyer, in the latter part of the 18th century (1788), made his excellent contribution to the literature on the subject, while an American surgeon—Bodenhamer—in a work entitled, "Anal Fissure," published in 1868, probably did more than any other writer in making clear the frequency, importance, and correct treatment of this disease.

Definition

An anal fissure, or painful ulcer of the rectum (as some choose to term it), is a more or less superficial, elongated, slit-like cleft, crack, or ulcer, eliptical or irregular in shape, situated near the mucocutaneous junction at the outlet of the anal canal. At times it simply involves the superficial tissues; again, it may extend entirely through mucous, submucous, and subcutaneous tissues, exposing the fibers of the sphincter muscle. As a rule, the ulcer or fissure extends upwards in the longitudinal axis

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of the anal canal to a distance of from one-quarter to one inch; the apex is usually situated over the lower border of the internal sphincter while the base, or lower portion of the ulcer, reaches down as far as the lower margin of the external sphincter. It may, however, be situated entirely within the inner surfaces of the external sphincter, or may extend higher in the anal canal, and down into the skin to quite an extent. It is usually located at the posterior portion of the anal aperture at or near the median line, but it has been found in every quadrant of the anal orifice. It is characterized by acute, radiating pain, and spasmodic sphincteric contractions, which seem out of all proportion to the size of the lesion. In most cases a single ulcer is present, but two or more may sometimes be found in the same patient.

Frequency

This disease occurs at all ages, but is most common in adults, and is more common in infants than in older children. Most authorities claim that it is found more frequently in females than in males. In the experience of other equally good authorites, the condition occurs more frequently in males. Goodsall and Miles (Diseases of the Rectum and Anus, 1900, Part I, page 209) report a series of 329 cases of which 190 were males, and 139 females. In the writer's experience, 59 per cent of all cases treated, to date, were males.

Etiology

There are many factors and pathological conditions which may contribute to both the predisposing and exciting causes of anal fissure. Anything which weakens the anal tissues, thus rendering them liable to abrasions, will act as a predisposing cause, while the passage of hardened fecal masses coincident to constipation, with or without foreign bodies in them, is nearly always the exciting cause. Contributing causes, either predisposing or

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exciting are: Inflammation and attending turgescence of the mucous membrane of the anal canal, diarrhoea, cholera, pelvic visceral diseases, the lodgment of feces or other foreign bodies between the external and internal sphincters; severe straining efforts due to constipation, dysentery, diarrhoea, stricture of the rectum, and stone in the bladder; mechanical injuries and constriction; irritation of the syringe tip where frequent enemata are practiced; condylomata; hemorrhoids; venereal disease; bruising of the rectal wall during parturition; congenital narrowing of the anus; foreign bodies which have been swallowed, or introduced into the rectum through the anal canal; diseases of adjacent organs; enterocoliths; polyps; prolapsus recti; syphilis; tuberculosis; malignant or venereal ulceration; colitis; sigmoiditis; proctitis; pernicious catharsis; pederasty; rectal masturbation; violent or hasty stretching of the mucous membrane by any means; direct injury, or operation when the wound does not properly heal; prurigo; eczema; psoriasis; herpes, or other skin diseases that may involve the anal margin; deviation of the coccyx; the use of improper articles for detergent purposes, marginal abscesses; traumatism; pruritus; malposition of the uterus such as anteversion or retroversion; or any wound excoriation or inflammation around the anus. M. Boyer in the article already referred to, advanced the theory that spasmodic contraction of the sphincter muscle, of itself, constitutes the disease, and that the fissure or rent of the mucous membrane is secondary to and caused by this contraction. Every surgeon who has had experience with this painful condition knows that reflex spasms of the sphincter sometimes occur when the mucous membrane is perfectly sound, due to some disease of the upper rectum, or neighboring organs, and the diagnosis of anal fissure from sphincteralgia is not wise, but should be determined only after a most thorough, painstaking and intelligent examination.

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Pathology

The pathological changes vary from a very slight abrasion, in some cases, to quite extensive destructive ulceration in others. Often the most superficial layers of the mucocutaneous tissues are involved; in other cases, the muscular fibers are exposed, or are involved in an inflammatory process which is accompanied by fibrous deposits; and various changes in the vascular and nerve supply may occur.

Symptoms

In discussing the symptoms of anal fissure, it is necessary to understand that the nerves of the mucocutaneous covering of the sphincter muscles are from the sacral plexus and from branches of the pudic nerve. The patient invariably dates the discomfort attending the disease from some particularly hard passage of the feces. Rarely, he can trace the condition from the fact that he had a good deal of discomfort at the time of stool, and afterwards succeeded in removing the scale of an apple, or that he succeeded in finding in the stool some sharp substance known to have been swallowed.

The chief and constant symptom is pain, which may be continuous, but which is always increased by defecation. The pain does not, as a rule, occur at the time of defecation, but usually after, sometimes at once, and at other times after a short interval. It may last from an hour or two, in mild cases, to a whole day in the more severe forms. The pain is often described as a dull, gnawing ache, and is often referred to the loins or down the thighs.

The sufferer dreads the act of defecation and he invariably postpones it as long as possible. In this way, a condition of chronic constipation is developed, and the whole digestive system is disordered. In women, there is often reflex irritation of the bladder, tenesmus, and uterine disturbance, combined with discomforts at the anus. Frequently women will suffer for a long time with

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this condition before they will seek relief. Sometimes the most simple ulceration will cause a greater degree of suffering than the more extensive and deeper forms of the disease. Probably the pain in every case depends upon the extent to which the nerve filaments of the area affected are exposed. The susceptibility to pain varies in different persons. A woman with a highly sensitive nervous organization is very susceptible to a very slight ulceration. The earliest symptom of anal ulceration may be a morning diarrhoea. The patient has an urgent desire to go to stool immediately after getting out of bed. The passage consists usually of gas, a discharge like the white of a raw egg, pus, or a dark discharge resembling "coffee grounds." There is a certain amount of tenesmus, and a burning, uncomfortable sensation which is not an actual pain. Often the patient seeks the closet again after dressing, and passes fecal matter which is occasionally smeared with blood. Then after breakfast, especially if hot tea or coffee is taken, the bowels will move again, after which the patient feels all right, and attends to his usual occupation during the day, with, perhaps, an occasional reminder by a disagreeable sensation that something is wrong in the lower bowel. As the condition becomes more severe, the patient begins to have a burning pain after stool, with a greater degree of straining, and sometimes there is more pus and blood in the discharge. The pain may now become very acute, or it may be described as dull and irritating, and sometimes it is increased by standing or walking. The patient's health begins to give way, and he gets some form of indigestion. There is a spastic constipation. He loses his appetite; the pain in the rectum and the anal region increases; and he describes his feelings as miserable in the extreme. The gravity of this condition is quite apparent. If not treated intelligently, and often in spite of the treatment,

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it will end disastrously, or in anal stricture. This result is not unusual and it often requires as much skill in its treatment as any disease which the rectal surgeon comes in contact with.

Often a thrombotic hemorrhoid develops, due to the straining consequent upon anal fissure. It is this condition in many cases which causes the patient to seek the aid of the surgeon. Particular care should be given to the examination of this class of cases, for the thrombotic hemorrhoid may be discovered, and the fissure which has been the real cause of the thrombotic condition may be overlooked. Often, but not in all cases, a "sentinel pile" may be present. Ball in describing the cause of fissure and the "sentinel pile" says that "often something causes one of the valves of Morgagni to become torn, and dragged down until the membrane is pushed out, forming the "sentinel pile." This theory is agreed to by many rectal men, and rejected by others. The theory certainly has many commendable features, and in many cases would seem to be true, but, in many cases of even chronic fissure, there is no "sentinel pile," and there is no evidence, after the most careful examination, to lead one to think that the valves of Morgagni are in any way involved in the fissure. The presence of the "sentinel pile" is a source of much pain, and should always be considered when the patient gives a history that would in any way suggest the presence of fissure.

Other symptoms are persistent headaches, and a feeling of lassitude and general malaise. These symptoms, together with a history of pain and discomfort at stool, a lasting pain radiating up the spine, and down the legs, centering in the heel in many cases, and the nervous condition of the patient, point almost conclusively to anal fissure, and extreme care should be exercised in making an examination.

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Diagnosis

The character of the pain as described by the patient indicates, to an experienced surgeon, an almost correct diagnosis, but intelligent inspection is also necessary, and when making such inspection, care should be taken not to cause more discomfort to the patient than is absolutely necessary, for the parts are extremely sensitive, and the patient is usually nervous and apprehensive.

The examination is made with the patient reclining on the left side with the legs flexed. The buttocks are carefully separated, and the patient is requested to bear down, or strain in the same manner that he would to have a movement from the bowels. In a typical case, the "sentinel pile" is seen at or near the posterior anal margin. This presents an inflammatory appearance, and, on its anterior aspect, there is usually a groove which leads into the fissure and which can be easily seen by separating the anal orifice. In women, when the fissure is located at the anterior anal margin, a very complete view of the fissure can be obtained by placing the finger in the vagina, and everting the anal wall. The use of a speculum is superfluous, if the comfort of the patient is to be considered.

In order to locate an ulcer situated between the external and internal sphincter, it is necessary to use a speculum, but that condition is **not an anal fissure.**

Of course, there are many cases where there is no "sentinel pile," and, in cases where there has been a co-existing pruritus ani for any length of time, with accompanying thickened radiating folds around the anal margin, more than a cursory glance will be required in order to definitely locate the fissure. When anal fissure has been in existence for any length of time, the external sphincter may become hypertrophied, owing to the constant spasm of the muscle.

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Treatment

Palliative Treatment

The palliative treatment of anal fissure is usually of little value. Of course, in recent cases, an application of nitrate of silver (25 per cent) following an application of fifteen per cent, (15 per cent) solution of cocaine to the raw surface, will in many cases effect a cure, but in the case that usually comes to the surgeon, the disease has been in existence so long that the deeper tissues have been involved, and any apparent cure will leave a cicatrix that will tear at the occasion of the first really constipated movement from the bowels.

In those cases where the patient refuses to be guided by the physician or the surgeon, and an operation is refused, much comfort may be derived from keeping the fecal evacuations soft, by the use of ten drop doses of the fluid extract of cascara sagrada three times a day, or by one drachm doses of the compound licorice powder, or one drachm doses of extract of senna pods at bedtime, assisting their action, if necessary, by the use of small enemas of warm water, or olive or cotton seed oil. Have the patient lie down for one hour after stool, or during the time that the pain exists, and during that time have hot water bags applied to the affected area.

When hemorrhoids are present, enemas of cold water, or applications of a solution of ichthyol in glycerine (15 per cent.) to the anal canal may relieve the congested condition.

The diet should be limited to those things which would tend to cause soft stools, viz., fruit, soft vegetables, (squash, finely mashed turnips, soft-boiled onions, mashed potatoes, etc.) A small amount of easily digested meats (lamb, chicken, steak, etc.) few carbohydrates, and no uncooked food like salads, or pulp of grape fruit, orange and raw bananas.

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Operative Treatment. Forcible Dilatation.

Probably the greater number of cases of anal fissure which are seen by the general surgeon are treated by the method called forcible dilatation. When the sphincter is forcibly dilated, there is usually a tear made through the fissure which gives immediate relief to the most distressing symptom, viz., pain, but it leaves a deep, cicatricial tissue which again tears whenever there is a hard fecal passage; this causes a recurrence of all the original symptoms.

Incision

The operation of incision was first advocated by Boyer in 1788. He claimed that the fissure was due to spasm of the sphincter, and he advised a complete division in order to control the contractions of the muscle. When the fissure was located in the posterior median line, he advised cutting the muscle on either one or the other of the lateral borders of the anal wall, and then curetting the base of the ulcer, afterwards applying some cauterizing agent. His reason for cutting the muscle on the side was on account of the fact that, while the external sphincter forms a complete circle around the anal canal, at its posterior aspect the fibers dessicate, and run off to form a Y-shaped attachment to the coccyx. The above would explain why many cases occurring at the posterior anal margin (where a great proportion of cases do occur) do not readily heal after the incision operation.

Brick of Philadelphia and Hill of Boston have advanced this same idea in discussing the treatment of anal fistula where the opening is in the posterior median line. And the same thing holds true in doing the incision for an anal fissure which may be located in the posterior median line, for unless an incision is made deep enough, a cure cannot be accomplished. When incision is practiced, care should be taken to make the cut deep enough to put

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the muscle entirely at rest. The cut should be made through the floor of the fissure, and should be extended well back into the skin and healthy tissue. Care should be taken to cut the anal mucous membrane sufficiently to avoid leaving any pocket which might cause a delay in the healing process. The wound resulting from the operation should be cleansed and dressed every day. Such a procedure will insure permanent and absolute relief for the condition in many cases.

The condition of the patient should always be considered when advising the line of treatment to be adopted. In many cases the operation for incision can be effectively done under local anaesthesia by using as a local anaesthetic an injection of one fourth of one percent solution of eucaine in two per cent boracic acid solution. The injection should be made beneath the bottom and to the sides of the fissure, and should there be a polypus or hemorrhoid at the upper angle of the fissure, it should be removed by ligature; and if there is an inflamed tag ("the sentinel pile"), it should be excised. The indurated edges of the chronic ulcer should be cut off, and any granulations should be scraped. The incision should then be packed with sterile gauze, and the patient should be confined in bed for, at least, twenty-four hours.

Excision

When excision is done, the patient should be under ether, and the fissure should be thoroughly excised. In chronic cases, or whenever scar tissue is present, excision is the only operative method that will effect a permanent cure.

In the writer's practice, excision is always done at the time of incision; but in some cases, where incision has already been done, and where no cure has been accomplished, excision should be made. This consists in dissecting out the affected area, after a complete dilatation of

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the sphincter, and the resulting wound is allowed to heal by granulation. Perhaps in some very rare cases, the wound may be closed with sutures, using either cat-gut or silk, but when that method is adopted, there is usually a great deal of pain, while the ultimate result is no better than when the wound is allowed to heal by granulation, if the wound is carefully cleansed each day, and loosely packed with sterile gauze.

The best and most certain cure for an anal fissure of long standing is a combination of the incision and excision method at the time of operation. The incision is made through the base of the fissure; the walls are dissected out, and the over-hanging edges are cut off. The wound should be packed with sterile gauze. A small branch of the inferior hemorrhoidal artery is usually cut when doing this operation, but it is not necessary to ligate this, as all hemorrhage usually is readily stopped by the pressure of the gauze with which the resulting wound is packed. The bowels should be confined for three days, and, if the packing is removed under somnoform anaesthesia, before the bowels move, much discomfort to the patient may be avoided.

The resulting wound should have the personal attention of the operator until granulation is complete. As a matter of fact, the after treatment of every operation around the anus or rectum is of far more importance than the operation itself, if the ultimate result of such an operation is to be considered.

Complications Resulting from Anal Fissure.

Forcible dilatation of the sphincters may be followed with incontinence of feces, and such an eminent authority as Dr. James P. Tuttle of New York has reported two such cases.

The wound resulting from any operation may become

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infected, unless careful postoperative treatment is carried out. If the wound becomes infected, freer drainage should be secured, and care should be taken to have the wound thoroughly cleansed each day.

If the muscle is obliquely cut when incision is practised, incontinence will usually follow. In tubercular fissures, the actual cautery knife should be used, or an application of ninety-five per cent. (95 per cent) carbolic acid should be made at the time of operation, and this should be followed with a thorough application of alcohol.

DISCUSSION

CLIFTON S. ABBOTT, M. D., Laconia.

I feel that we have just listened to a mighty good paper and that we should consider ourselves very fortunate in being able to get him to address us. It is so complete and it was taken from so large a number of cases that any discussion, especially by a general practitioner like myself, I think would be out of place; in fact, it seems to me that the general practitioner's knowledge of these unusual affairs comes from hearing just such papers as this. There is one lesson that we might learn and that is that the general practitioner does not examine his cases as frequently or with as much care as he might.

WILLIAM E. LAWRENCE, M. D., North Haverhill.

I feel somewhat incompetent to discuss this paper, especially as it is from a man who is so thoroughly a specialist as Dr. Gilman. Some things have come to my notice in a few cases in the last year that I would like to call your attention from the standpoint of a general practitioner. We have a little hospital in Haverhill, and I know of one case in which symptoms of appendicitis were shown. The patient was operated upon and he received no benefit. Later on he admitted that he had

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hemorrhoids and was operated on: the operation showed a fissure and the symptoms were relieved. My treatment has been for fissure, the ordinary treatment as used in New York, the iodoform and olive oil injection, following that with the ordinary caustics. Recently I have had a case of fissure which resisted this treatment, and I am using a treatment of olive oil in which there is suspended bismuth. The patient is under treatment and is doing well. I do not know as I ever saw a fissure in which there was not more or less indigestion. Of course that has to be corrected along with your surgical procedure. I want to ask Dr. Gilman, in closing, if the cutting of the sphincter is done as the usual procedure and if there is danger of incontinence of feces?

CLOSED BY DR. GILMAN.

In answer to Dr. Lawrence's question, I will say that is done very commonly by the general surgeon. Care should be taken to cut the muscle at the right angle. If that is done there will be no trouble about the muscles healing.

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Ophthalmia Neonatorum

Louis W. Flanders, M. D., Dover.

Last summer, while passing through a town in Central New Hampshire, I was approached by a lad of sixteen who asked me to buy a lead pencil of him. The boy was absolutely blind. In the place of the cornea in each eye, there was a dense, white, bulging leucoma, evidently the result of ophthalmia neonatorum.

"How did you become blind?" I asked.

The reply came promptly, "I had sore eyes when I was a baby, and the doctor put lunar caustic into them and spoilt them."

Here followed some remarks not at all complimentary to the physician. Without doubt the doctor did put lunar caustic into those eyes, but the criticism that should be passed upon him is that he did not put it in soon enough. This paper is primarily a plea for prophylaxis in the gonorrhoeal ophthalmia of the newly born.

According to the census of 1890 there were 50,000 absolutely blind persons in the United States. Of these fully 15,000 lost their sight from neglected sore eyes at birth. The disease under consideration is an infection, and it is preventable, or nearly so. Five minutes attention at the critical moment will save seventy years of blindness, as some one has expressed it. How can we justify ourselves if we withhold that attention, thereby condemning an innocent person to a lifetime of darkness and dependency?

In 1882 Professor Crede of Leipsic demonstrated that one drop of a 2 per cent solution of nitrate of silver,

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instilled into each eye as soon as the head is born, will prevent most cases of ophthalmia neonatorum. He reduced the occurrence of that disease in the hospitals of Leipsic from 10 per cent to 0.2 per cent. Crede's method is now followed in practically all public institutions, but it is not used in private practice to the extent that it should be. An unusually large number of cases of gonorrhoeal ophthalmia seen this winter, many of them preventable, prompted me to write this paper.

The only objection that can be raised against Crede's method is that the instillation of a 2 per cent solution of silver sometimes causes a transitory conjunctivitis. On this account many hospitals use a 1 per cent solution. No reaction, as a rule, follows the use of a solution of this strength, and statistics show that it is nearly, but not quite, as efficacious as the stronger preparation.

The method of procedure is as follows: As soon as the head is born, the eyes are wiped clean with soft gauze sponges, the lids opened and a drop of the silver solution instilled into each eye. If labor pains are coming on rapidly, the eyes may be simply wiped and the instillation of the drops put off until a more convenient period; but in no case case should this step be delayed longer than is absolutely necessary.

I believe that physicians should employ Crede's method as a routine practice in obstetrics. Experience has taught us that gonorrhoea is no respecter of persons, and furthermore, it is certain that other kinds of bacteria often contained in a leucorrhoeal discharge, are capable of setting up ophthalmia in the infant. Many states have made stringent laws for the suppression of ophthalmia neonatorum. Vermont has such a law, and her State Board of Health has issued specific directions for the care of the eyes of the new-born baby. Our own state has now fallen into line, and an act was passed at the last session of the legislature relative to this disease.

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I have spent much time in experimenting upon various prophylactic outfits. It is desirable to find something that shall be compact, and something that will not need constant renewal. Silver solutions oxidize quickly, and, therefore, should be prepared at the time they are to be used. This might be accomplished were it not that we cannot always depend upon pure water. Some specimens contain so much organic matter that they are unfit for use, so that we are forced to use distilled water which is not always at hand.

A 1 per cent solution of silver nitrate will remain unimpaired for a long time if it is kept in a dark amber glass retainer and excluded from the light in the depths of an obstetric bag. Frederick Stearns & Company of Detroit make a dropper-bottle holding half an ounce or more. This ingenious device does away with the pipette usually employed for the instillation of drops, and simplifies the outfit. I recommend that physicians carry a packet in the obstetric bag containing the following:

1. One half dozen soft gauze sponges.
2. One dark amber Stearns dropper-bottle, filled with a 1 per cent solution of nitrate of silver.

The solution should be renewed every two months, and should always be made up with distilled water.

Now let us turn to the consideration of the disease itself.

Usually, about the third day after birth, the eyes of the infant show a marked conjunctivitis, accompanied by more or less lachrymation. In a few hours pus begins to show itself, which increases in quantity to a surprising degree. The lids become puffed, red and shiny, the conjunctival lining thick and velvety. At the end of a week in bad cases, the disease is in full activity. The swelling of the lids is now enormous, so that the upper member often hangs over the lower and down upon the cheek

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Creamy pus is present in great quantities. The bulbar conjunctiva may be enormously swollen, so that the cornea appears at the bottom of a cavity. This swelling is so marked that the blood supply is shut off, the corneal tissue dies from inanition and ulceration begins.

The ulcer is constantly bathed with pus, infection follows, and sometimes the entire cornea breaks down. In the process of repair the missing tissue is replaced with a dense, white cicatricial mass, and we are left with a constantly rolling eyeball which bears a striking resemblance to a white alley marble, and the victims of this disease are so conscious of the deformity that they almost invariably wear black glasses to hide the eyes. This is not an exaggerated picture, as many of you here present can testify. Shall we not use prophylaxis to prevent such a horrible condition as this?

It is always well to take smears for bacteriological examination. It is certain that the pneumococcus, the colon bacillus and the streptococcus can produce conjunctivitis in the infant, but the inflammation so produced is not so severe nor so prolonged as in gonorrhoeal ophthalmia. If, however, the examination shows plenty of gonococci, we know we are in for a good, hard fight, that will not be concluded for at least six weeks.

Successful treatment demands skilled nursing and perfect technique. I know of no condition in which the services of a trained nurse are more to be desired. Indeed, one of the most discouraging things about these cases, especially in country practice, is that the nursing must often be left to the grandmother, aunt or sister. The eyes must be cleansed of pus every hour, day and night. Various preparations are recommended for this purpose, probably the warm boric acid solution is as good as any. Whether we use a fountain syringe, a pipette or other agent, care must be taken not to touch the eyeball. A

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bit of epithelium knocked off from the cornea may mean the loss of the eye. The lids must be lifted away from the eyeball, and the stream directed under them, gently washing out all pockets until the eye is perfectly clean. If the swelling is great, ice packs may be applied for the first few days, discontinuing them however, if the cornea shows signs of dullness, denoting impaired circulation. An ice pack should not be left on the eye more than half an hour at a time lest the blood supply be too much diminished, and the cornea suffer on that account. In desperate cases it may be necessary to do a canthotomy to relieve the pressure of the swollen lids upon the eyeball.

Of late years the albuminates of silver, argyrol, protargol and others have been much lauded for the cure of this disease. I do not think, however, that they should be relied upon to the exclusion of the nitrate of silver. For the past two years, I have treated all my cases in the following manner, and the results of the treatment seem to have justified the method.

After thoroughly cleansing the eye, I direct the nurse to instill every two hours, two drops of a 25 per cent solution of argyrol, freshly prepared. Once every day I make a very careful and thorough application of nitrate of silver to the everted lids. Nor do I use strong solutions, never over 2 per cent, for I am thoroughly convinced that the success of the procedure depends more upon technical skill than upon strong solutions. If the lids are imperfectly everted, or if the application is made upon the top of a layer of pus, we shall accomplish nothing; for the silver will unite with the pus to form a tough coagulum which is inert. You will pardon me if I describe the method followed in making applications to the eyes of an infant. The details of the proceeding may not be familiar to all of you.

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Place two chairs of equal height beside a window or other good light. Let the physician put on an apron, or cover himself with an old sheet. If he can use rubber gloves, let him put them on. I cannot use them, and prefer to take chances on successfully sterilizing my hands after I am through with the patient. The nurse wraps the infant in a square yard of old cotton cloth, firmly pinning the arms to the sides. She then sits down opposite the doctor, the child's feet toward her waist, and places the baby's head between the doctor's knees. The surgeon sponges the lids and wipes away all discharge with sponges or pledgets of absorbent cotton squeezed out in warm boric acid solution. Dry the lids thoroughly and let me say right here, once for all, that all sponges, absorbent cotton or pads used about the eyes should be deposited upon a sheet of paper, and as soon as possible gathered up and burned. Evert the lids with the thumb and index finger. The child will struggle and cry, and the spasm of the orbicularis will help evert the lids. Take plenty of time. Be careful not to press upon the eyeball, or scratch the tissues with the fingernails. When the lids are completely turned, a swab consisting of absorbent cotton twisted about a toothpick, is dipped in a 2 per cent solution of nitrate of silver, and brushed over the lids thoroughly but very gently. Allow the solution to stay on thirty seconds, and let me remind you that this is a long time under the circumstances, then swab again with normal salt solution and the operation is completed.

The surgeon should scrub his hands with green soap and hot water, using a brush for the nails, then soak the hands for a few moments in a 1 to 2,000 solution of bichloride, then wash again thoroughly with soap and water.

If an ulcer forms in the course of this disease, its treatment will require all the skill the surgeon can bring to

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bear. Atropine must be used in a 1 percent solution, the actual cautery may be applied, and all the surgical measures known to ophthalmologists in the treatment of infected ulcer of the cornea may have to be tried. Even then, with the best of care and under the most skilful attendance, the eye may be lost; which fact brings me back to my first position, which may be briefly summarized in the old adage, "An ounce of prevention is worth a pound of cure."

DISCUSSION

CHARLES F. NUTTER, M. D., Dover.

Mr. President and Members of the New Hampshire Medical Society:

I expected to hear the discussion of Dr. Batchelder first, thinking that I might get some points from him on which I could elaborate. As far as the paper of Dr. Flanders is concerned, I wish to say in the beginning that I agree heartily with everything he has said. There are two or three points worthy of attention that I would like to emphasize, one of the points that has been mentioned by him and two points that have not. The first is the non-gonorrhoeal cases. It is not necessary for the mother to have gonorrhoea and the infant to have extremely sore eyes. I think this point we should consider and think about, because I know in talking with different men they feel they are competent to judge in every case where the prophylactic measures are necessary or not. We are certain that gonorrhoea does not exist in a given case. You may get extremely sore eyes from a case other than gonorrhoeal infection. At this time I think it is well to be careful of the attendant. I have known two or three cases where the infection came about not from the mother, but from the hands of the attendant. Presumably in the cases I have seen there were other than gonorrhoeal infections, but we paid particular attention

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to the eyes. It is well to remember that we will not feel as certain that in every case the prophylactic is not needed. I remember the first few years of my practice was general work, and I formed the opinion, as many of us do, that we could tell when a case needs prophylactics and when it does not, and I carried that opinion pretty well until the time I entered into special work and these cases came to me from the hands of other men. I can look back and see where I had made my mistakes. My opinion has changed completely. I have had both sides of the question, and I feel sure that we make a mistake If we are not very careful with prophylactics. In fact, I have touched upon the second point, looking after the attendant's hands and being sure that there is no infection from the attendant. We will pass to the third point that I want to just mention, and that is the instruction that we should give our nurses in the beginning of sore eyes and especially those of us who do not use the prophylactic measures. The nurses should be instructed on the first evidence of sore eyes, not the sore eyes as considered by the people, but the first evidence of congestion, a slight discharge above the lids; and anything that is unusual about the eyes should be reported to the attending physician at once. If you get these cases in the very beginning, you may often check them, but if they have a start of twenty-four hours, they are very hard to deal with. At the present time I have a case that had a start of five days and I assure you that it is a hard case to treat from which to expect results. I read a short time ago of some institution where they had cards that they used to give the attendants. It was a method to bring about very forcibly the necessity of reporting these cases, and the thing I want to speak of which I think is extremely important, are those cases not of total blindness, but of partial blindness or the cases of astigmatism.

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These are the things that the general practitioner does not appreciate. We have 15,000 people in the United States dying of this disease which can be prevented. I hope none will be laid to me, and I feel very sure that in these cases of non-gonorrhoeal infection we get a great many light scars that the doctor spoke of in his case. They are hard to see. If you look at them with a transmitted light you will see a very thin substance. This is enough to cut down the vision, and coming in children many times, as it does, a child with a normal brain is handicapped to such an extent he is considered a dull student, and many times a dull student has dull eyes. In other cases where this film does not exist and you can see any evidence with a transmitted light, I feel you get those cases of astigmatism more than you would see if you didn't have these cases. That is the point I have never seen brought out by anyone. I see a great many cases of astigmatism and they are due to gonorrhoeal sore eyes. If we instruct our nurses it will be a very great help.

D. M. CURRIER, M. D., Newport.

Will you allow me to say one word. Dr. Flanders ended his paper by saying that an ounce of prevention was worth a pound of cure. I agree with him there, but where will you apply that ounce of prevention. Here are thousands of infants that are suffering, not from any sin of their own, not that they are to blame for it, but there is somebody to blame for it. Now, I believe that we should have in this state the same law as they have in the state of Illinois, demanding a certificate of health from every person that is applying for a certificate of marriage. There is the trouble. If everybody would keep themselves pure and spotless from this accursed disease, there would be no blindness from gonorrhoea in this nation. I say that that ought to be. There is no need of

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this disease. This disease is preventable, not in the infant when it is born, but it is preventable in the parent. There is where the trouble is, and there is where it should be stopped, and I hope this state will pass a law and grant no marriage certificate unless the persons, both male and female, can furnish a certificate of good health and freedom from any contagious disease. It is stated that there are more deaths caused by contagious venereal diseases than any other contagious diseases that we have. Here we are required to report diphtheria, scarlatina and other contagious diseases. There are not so many deaths, there is not so much suffering caused by all of those diseases combined as is caused by venereal diseases, which is preventable and should be reported to the board of health. We should have a law in this state requiring every physician that is called upon to treat a venereal disease to report it to the board of health of his town. Let that be done and it would go a great ways toward checking this accursed disease.

I remember very well a case that I had years ago in my practice where a pure country girl married a city boy. He came into that section to do some business and became acquainted with this country girl. They were married and in due time she became pregnant. She came back to her native town, to her home, to be confined. I was called. A few days before her confinement, her husband came home from Boston and visited his wife. You see the condition. He infected her, and that child in a few days was in the condition described here by these persons who have spoken and written on this subject, but I am happy to say that by vigorous effort the eyes of that child were saved, and she has good eyes today, but let me tell you that that wife in a few days after she was confined was a sight to behold. This affected the whole surface of her body and she never afterwards saw a well

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day. She lived a few years in miserable health and then passed away, the result of the nefarious act of her husband. I say those things should be stopped if we are working for the health of the community. We should do something and that very soon. We can do more good along that line than almost any other if we can have the proper rules and regulations and laws to govern those things.

CLOSED BY DR. FLANDERS.

I know exactly the difficulties that all of you men labor under in general practice in employing prophylactics. Of course a great many fathers are wise to the procedure. You put drops in the eyes of the infant and they immediately say, what do you think I have had, but that should not deter you at all from using prophylactics. It has been so thoroughly thrashed out by the civic department of Women Clubs and organizations of that kind that now it is pretty generally understood. A great many states have passed laws requiring the use of prophylactics. Massachusetts is very stringent. Vermont is just coming into line very strong, and we have just passed our own law. This is a point for you to remember that in case you did get gonorrhoeal infection in an eye and you lost the infant's eyes, in a case for mal-practice, if it was shown that you did not use prophylactics, it would go hard with you. Public sentiment is so strong that they would hold you responsible if you lost the eyes in case you did not use prophylactics. It can do no harm whatever in the solution that we have recommended, and the little equipment that I have shown you can easily take its place in the obstetric bag. Then you are sure that you have not got this thing to fight to the bitter end.

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Two Surgical Cases

M. E. Kean, M. D., Manchester

The two cases it is my privilege to report, though dissimilar, have some features in common. Both patients are boys thirteen years old, whose injuries, accidentally received demanded prompt and energetic treatment and were operated on under ether anaesthesia; both recovered and are present, subject to your examination. In one case, tetanus was anticipated, but did not occur; in the other, it did occur, but was not anticipated. Clearly a case of the unexpected happening. Both demonstrate that the best results of surgery are achieved by prompt action.

Case No. 1, that the surgery of the brain is no exception, (when once areas of the brain are destroyed, we can hope but little for repair) and that early surgical interference in fracture of the skull with intracranial hemorrhage will be rewarded by almost certain recovery.

Case No. 2 demonstrates the occurrence of severe and extensive subparietal injuries, due wholly to external and violent means, without external visible marks of injury. (Accident insurance company's contention to the contrary notwithstanding.)

Case No. 1

History: Maxwell Greenlaw, aet. 13 years, entering the stall occupied by a horse weighing 1350 lbs. that had been sharpened the day preceeding, and which he had cared for, harnessed and driven for nearly a year, was

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attacked by the animal, who threw him down and trampled upon him. Another boy who was visiting, and saw the attack, notified the family, who quickly responded and removed the patient to the house where I first saw him. He was lying upon a couch, partly conscious, somewhat delirious, head, face and neck covered with blood. A slight examination sufficed to show the serious nature of the accident, and necessity for hospital treatment. He was placed in an ambulance, and taken to the Sacred Heart Hospital, Manchester, N. H., a distance of four and one half miles.

Examination at Hospital: Patient was etherized by Dr. Lyons, head was shaved, hair being soaked with blood mixed with urine and faeces, and the following injuries noted. There were innumerable contusions of the soft tissues of face, nose, upper and lower extremities; practically none upon abdomen or chest. The ring finger of right hand was dislocated at the junction of first and second phalanges, (medioproximal phalangeal articulation) the median or second phalanx being fractured. The index finger of left hand had been calked; practically amputated at medioproximal phalangeal articulation (which I completed.) The left radius was fractured two inches above wrist joint. These injuries were treated in the usual manner, with satisfactory results, and will not be again referred to.

The chief injury, which justifies reporting the case, was inflicted upon the head. At eight different points, the calks of the horse's shoes had gouged out portions of the skull. All were compound fractures; four being compound comminuted fractures. Two were detached, and driven in between the uninjured dura and inner table of the skull. The other two depressed splinters had penetrated the brain substance. The most hemorrhage was from the fractures near occipital protuberance, and the greatest loss of brain substance from the fractures

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about one and one fourth inches above external canthus of right eye, in frontal-temporal bones.

Operation: Incising scalp between wounds caused by accident, an incision resembling an inverted Y was made, the somewhat flaring arms extending from occipital protuberance one and one half inches outwards and a little downwards to the left, two inches downwards and slightly outwards to the right, and one and three quarter inches nearly straight anteriorly. Three distinct fractures, chiefly of occipital bone (parietal partly) comminuted with splinters pushed between dura and inner table, and two penetrating the dura, and underlying brain were noted. The latter were extracted. By use of Rongeur forceps, bone was removed to expose the limits of torn dura; loose fragments of soft and bony tissue were removed; pressure with hot moist gauze and a few catgut ties arrested the hemorrhage; the dura was closed with continuous catgut, edges of skull made smooth, small gauze wicks inserted at each lower angle of wound, and scalp closed with chromicized catgut, with one sillk worm gut in center of each arm of the Y. The injury to anterior portion was next treated, extending opening in scalp to expose three distinct fractures, the dura being exposed and closed in same manner as just described. Over left side of occiput, about one and a half to two inches from mastoid process of left temporal bone, a one inch button was trephined, thus removing a markedly comminuted area. On right posterior or external surface of occipital bone, was a small fracture which was simply curreted of spicules. Gauze wicks were placed in all, and scalp closed. Usual bandage to head, with large amount of gauze dressing. Patient was returned to bed, and when he awakened, was rational.

Post operative history: Patient passed a comfortable night after operation. The next morning he was given 1500 units of Lederle Antitetanic serum (immunizing

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dose). Hexamethylenamine, gr.V,3-4 i. d. was given for two weeks. Wicks were changed in forty-eight hours, discontinued after fourth day in all except wound over right temporal, which required drainage for two weeks. Although temperature remained about normal, there was some oedema over right eye; some ecchymosis, and for two days, a slight discharge of pus (only a few drops). There were never any symptoms of tetanus. He was discharged well March, 1911, just one calendar month from date of injury, and as I understand from the family physician Dr. Corning, who assisted at the operation, remains well.

Fractures of the skull as such, have no peculiar or special significance in themselves, and are of importance only on account of their relation to the brain. The prognosis depends very little on the form and extent at the time, but entirely on their relation to the brain, the complicating injuries to its substance and vessels and the disturbance in its circulation, and some such complicating injury takes place in about 46 percent of the fractures of the vault, and 64 percent of the fractures of the base. Beneath the vault are portions of brain, injury of which can be borne without marked disturbance of function, (as illustrated in the case reported), while at the base are situated the medulla, the crura, and the pons. This would explain the difference in mortality rate, but further than this, it may be assumed that a more general deformity of the skull as a whole is produced in connection with fracture of the base, while in fracture of the vault, the inflicting violence is limited more to the site of the injury.

For therapeutic reasons it is desirable to recognize displacements, depression and mobility of fragments. The removal of sharp pointed splinters may be necessary if they are directed against the brain. For that reason digital examination (rather than probing with probes or fine sounds) is indicated. The purpose of this is to

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determine only the gross relations at the site of fracture, as these determine the nature of the therapeutic intervention. Sufficient information can be obtained by passing the tips of the fingers gently over the area of fracture. It is not necessary to incur the risk of forcing splinters in further, or stripping the dura more extensively than has taken place already, by penetrating to any degree with the finger. The investigation with regard to the relation of fragments must never be carried too far. It is an error when for the purpose of diagnosis, excessively minute accuracy is attempted. Losses of substance within the area of fracture, as well as open clefts, or detached fragments, make themselves known by the pulsating blood that collects in the wound. The uninjured condition of the dura mater is important from the point of view of prognosis. In cases of considerable loss of substance, its integrity may be determined by inspection. In other cases the prolapse of brain substance (as in this case) is a positive sign of its having been injured. Flow of cerebrospinal fluid does not take place often in fracture of the vault. Compound fractures of the vault of the skull are an important as well as gratifying, field for the art of surgery. Since the introduction of antiseptic methods, their treatment has been most fortunate, with excellent results and has shown great progress. Their treatment presents two indications: to transform an unfavorable form of position into one that favors union, and to prevent the infection of wounds, just as in compound fractures elsewhere. The author never permits the application of disinfecting solutions of any kind to the wound. Of course the head is shaved and washed with ether, alcohol and water, again with alcohol, and finally with corrosive sublimate. The cleansing of the wound, with normal salt solution, the arrest of hemorrhage, the arrangement of the wound to facilitate drainage of wound secretions, and a sterile absorbent dressing

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constitute aseptic treatment of wounds. The treatment of compound fractures of the skull, disregarding the accompanying injuries of the cranial contents, demands above everything else, that infection of the wounds be guarded against. The purpose is served by the aseptic method of treatment.

Feb. 25, 1911, I was called at 1 p. m. to see Walter M. Robinson, aet. thirteen years, at his home in Manchester, N. H. He was curled up in bed, lying upon his left side, and gave the following account of injury: He had been coasting on a hill one block distant, the sled swerved to one side, and he collided with a post. Says he did not lose consciousness, arose unaided, recovered his sled, walked half a block; sat down a few minutes, rubbed his left side to ease pain, and walked home, arriving there about ten a. m.

Examination: Well developed, fairly nourished boy. Marked pallor of entire body surface. No abrasion, no discoloration, temperature 98, pulse 84. Complained of slight pain in left hypochondrium. Had vomited about two ounces of mucus just before I arrived. There was some dullness in left upper quadrant, extending toward axillary line, but not inferiorly. Patient voided urine (three oz.) which contained trace of albumen (cold nitric acid test). Probable rupture of spleen was diagnosed, and operation advised.

The boy's mother was convalescing from a hysterectomy for fibroids perfomed one week before, and the father was loath to decide. A hypodermic of morphia sulph. gr. 1-4, and strychnia nitrate, gr. 1-60 was administered. Saw him at 5.30 p. m. T 98.4, P 92. Had vomited twice about six ounces of greenish fluid. No medicines given. At 9 p. m. father called at my office, and stated that boy had slept one and one-half hours, had

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vomited cupful of brownish fluid, and suffered quite a little pain. He was convinced that operation was necessary and patient was removed to the Sacred Heart Hospital about midnight. Pulse 104, temp. 99.2.

Operation: Patient was etherized by Dr. Thompson. Assisted by Dr. Lyons. I opened the abdomen to left of median line between tenth rib and umbilicus. There was considerable free blood in abdomen. Examination disclosed multiple rupture of the spleen, the greatest damage being inflicted upon the upper thick and rounded end, which had been reduced to a pulp; the external convex surface was fissured, as was also the internal concave surtace, from upper end to hilum; the gastrosplenic omentum was infiltrated with blood, and the same mottled appearance was noticed in wall of stomach. The lower portion of left lobe of the liver was also badly torn. It appeared that the left lobe of liver, stomach and spleen, being compressed between vertebra and the post, that the stomach was flattened, with only slight injury to mucosa, while the left lobe of liver and the spleen were simply squashed. It was necessary to utilize the diaphragm to hold in apposition the numerous fragments of spleen. Two stitches sufficed to adjust the edges of left lobe of liver. A kidney needle threaded with catgut, being used. A cigarette drain was inserted (between liver and spleen above the stomach) and the wound closed in layers. Returned to bed, pulse 140, respiration 40.

Post operative history:,The ooze of blood ceased on third day and drain was removed. The patient was kept in Fowler position—salt solution and nutrition per rectum. March 6th, he was transferred from accident room to a room with two beds, the other being occupied by Case 1. On the 10th day, March 7th, stitches were removed, wound having healed by first intention. March 8th, the 11th day, patient complained of sore tongue (he

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had bitten it,) and inability to open mouth. Tetanus was diagnosed, and at 9.30 a. m. 1500 units Antitetanic serum (Lederle) was administered. Chloral gr. 20 by rectum. Dr. Lyons kindly cared for him until my return next day. March 9th, 12th day, risus sardonicus; rigidity of back, neck, chest. First spasm lasting two minutes; 1500 units; chloral gr. 20. Salt solution, Murphy method, pint per hour began today and continued until March 23d. At 11.15 a. m. Chloretone, 1 drachm in hot olive oil three oz. was given per rectum (Petersen case—Hutchings treatment, A. M. A. Jan., 1910.) At 7.45 p. m., 3rd, 1500 units.

Mar. 10. 10.30 a. m., 3d spasm, 2 min.; chloretone 1 dr., quieted in an hour.

Mar. 11. 10.30 a. m., 4th spasm, same treatment. At 1 p. m. bit tongue, and at 5 p. m. gave 3000 units.

Mar. 12. 5th spasm. Chloretone, 1 dr.

Mar. 13. 11.30, 6th, slight spasm, chloretone 30 gr., oil 3 oz.

Mar. 14. 9.15 a. m. Bit tongue, 2.45 p. m. 1500 units, 7.50 p. m., slight spasm, chloretone gr. 30.

Mar. 15. 3.30 p. m. Slight spasm, and 5 p. m. worst spasm of all. 5 to 8 minutes. Temp. 104.6, pulse 160. Gave high comp. enema, and at 5.50 p. m. pulse was 180. 6.30 p. m., chloretone gr. 30. 9.30 p. m., 1500 units.

Mar. 16. 8.15 a. m., 1500 units. 11.45 a. m., slight spasm, chloretone gr. 30.

Mar. 17. 10.20 a. m. 1500 units, 2 and 2.30 p. m., slight spasms. 3.20, chloretone gr. 30.

Mar. 18. No spasm.

March 19th. 4.30 a. m., slight spasm. Chloretone gr. 30. 10.30 a. m., 1500 units. Slight rigidity. Chloretone gr. 30.

March 20th. 2 p. m. 1500 units. 4.45 p. m., slight spasm. 5.30 p. m. chloretone gr. 30.

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March 21st. 5.45 p. m. 1500 units.

March 22nd. 5 p. m., 1500 units.

March 23rd. 7 a. m., 1500 units. 8.45 p. m., slight spasm. Chloretone gr. 30.

March 24th. 7.50 a. m., 15th and last spasm. Chloretone gr. 30.

March 26th. Chair and blankets. Bowels were freely moved by use of magnesia sulphate, dr. 3-6 once daily. Hexamethylenamine, gr. 5,4 i. d. as soon as he was able to swallow.

April 10th by opening skin incision one inch from upper end, removed the knot of chromic catgut tie. Four drachm doses and nine half drachm doses of chloretone were used, each time in three ounces of hot olive oil per rectum. 21000 units antitetanic serum. The patient improved steadily from latter part of March, and was discharged well on April 19th. The method of entrance of the germ of tetanus in this case, I do not know. The successful result, I believe was obtained by the chloretone controlling the spasms, the neutralization of the absorbed toxins by the antitetanic serum, the dilution due to salt solutions, and the free catharsis—two to five movements per diem due to magnesia sulphate. He has steadily improved up to the present time.

Time does not permit an exhaustive analysis of etiological factors, classification and diagnosis, of subcutaneous or nonpenetrating injuries of the abdominal viscera; but their frequent occurence and the fact that early diagnosis is absolutely necessary for successful surgical intervention, demands their brief consideration.

Acknowledgement is made of copious extracts from a very admirable paper read in the section on surgery at A. M. A. meeting at St. Louis, June 1910, by title, "Injuries of Abdominal Viscera without External Signs of Violence," by Henry H. Sherk, M. D., Pasadena, Cal. A. M. A. Journal, Mar. 11, 1911.

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Unfortunately there are no signs that are pathognomonic of visceral trauma. The symptoms may appear early, or not for several hours, even days. Cases have been reported where patients, after having suffered gross injury to some of the abdominal viscera, have worked for some hours before being compelled to retire.

I recall such a case, where the patient, while skating at Lake Massabesic, was struck by an ice boat. came back alone the five miles to the city, was reprimanded by the medical attendant for being hysterical, and died the second day following, just as we were about to begin the anaesthetic. The post mortem disclosed a complete division of the jejunum, which, if recognized early, and treated, would in all probability have been successful.

It is also true that shock, pain and vomiting may be out of proportion to the existing lesion, and vice versa, severe visceral lesions may follow slight accidents. Deaver classifies the forces which cause injuries to the abdominal viscera as compressive, percussive and concussive. As each variety of violence tends towards certain forms of trauma, it is important to know how the injury was received, what part received the brunt of the violence; did he fall or was he pushed, and the distance. Was the injured part active or passive—was it large or small, soft or hard object—was he crushed or run over, etc. etc.

Sometimes the mere forcible jolting or jarring of the solid viscera causes rupture of their substance, tendency increased, if organ is enlarged or softened, lessened by amount of clothing. If the abdominal muscles are contracted in anticipation, as in athletic contests, it follows that there is less danger of wounding the viscera, than would follow were they relaxed, and blow unexepctedly received. A stomach distended either by gas, fluid or solid food, is more easily bruised or torn than an empty one. It may be torn in any of its parts, but is most frequently at the pyloric end, and is always at the pyloric

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end when torn completely across (Deaver.) The liver (excluding the kidney) is the most commonly injured of the solid viscera, and most frequently from indirect violence, in which case, the rents occur at or near the supporting ligaments. A rupture is more apt to occur if it be enlarged or softened. The spleen is subject to the same traumatism as the liver, except that rupture of the splenic pulp is by far the most common form of injury, the enlarged spleen is most liable to injury. The normal spleen is most likely to rupture when its functional activity is greatest (a few hours after eating). Most of the tears or ruptures occur on its inner and thinner surface. Concussion from a blow on the abdomen, over the splenic area, can rupture the inner surface without any evidence of injury on its outer surface. The intestine may be torn, crushed or ruptured, single or multiple, in any region from pylorus to rectum, upper jejunum and lower ileum presents about 75 per cent, the duodendum about 5 per cent, the large intestine 3 per cent, and the other portion of small intestine 17 per cent.

The train of symptoms depends more upon the nature than the degree of the injuries. In trauma of the solid viscera, shock and signs of hemorrhages are most evident, in tears of stomach or intestine, evidences of peritonitis are sooner observed. The initial pain is generally localized, and may thus indicate the probable site of the injury. Next to pain comes shock, and generally speaking, the greater the injury, the more profound the shock. Early vomiting is not of much importance, but persistent or late vomiting, like progressively deepening and secondary shock, are most serious manifestations. Tenderness localized, before peritonitis, is most marked over the seat of injury. The same is true about rigidity. Its degree indicates the severity of the lesion, and its early localization the probable site of injury. The patient will

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generally lie upon the side, thighs flexed, or if sitting up, will lean forward with knees drawn up towards his chin. Facial expression (facies abdominalis) is one of distress and anxiety, as if conscious of impending danger. The temperature and pulse are those of shock, internal hemorrhage or peritonitis. The initial temperature is apt to be subnormal, rising as reaction occurs and peritonitis develops. The pulse is rapid, weak and thin according to shock and hemorrhage.

In conclusion, it is not necessary to say that the intestine is torn or the spleen ruptured to be justified in advising operative treatment. As Dr. Richardson says, in an abdominal case, the greater the difficulty in diagnosis, the greater the interest, and the greater the satisfaction when exploration shows the diagnosis correct. If the surgeon ever needs to be prompt in the application of operative measures for the relief of acute abdominal symptoms, he must be prompt when those symptoms follow violence to the abdominal wall.

DISCUSSION

W. H. Lyons, M. D., Manchester

We all agree that Dr. Kean has presented two very interesting and creditable cases and that they are cases which do not lend themselves very readily to discussion. The first case was a very discouraging one when placed upon the table. It seems to me that the remarkably smooth recovery that was had and the freedom from the distressing sight we see sometimes following such injuries is very creditable to the care and skill of Dr. Kean. He is always most careful in the examination of such cases.

W. A. Thompson, M. D., Manchester

I draw attention in the first case to the possibility of epileptic seizures or pressure symptoms later on, perhaps in ten years. It is a question whether it is neces-

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sary to close in these defects in the skull by artificial means with a subsequent operation.

The best method of repair of the skull in Muller-Konigs osteo-plastic flap, using the outer table of the skull, and by swinging this flap over the defect in the skull to prevent hernia cerebri and adhesions.

In regard to the second case, I was greatly impressed with the difficulty encountered in operating on the spleen in its sheltered position under the diaphragm. It is extremely difficult to suture a spleen ruptured in numerous places, for the organ moves rapidly up and down with every respiration, and as soon as a needle is passed it is very liable to be pulled through the friable spleen by an upward pull of the diaphragm.

The bleeding in this case is only controlled by suturing the spleen to the diaphragm. I have never seen or heard of controlling the hemorrhage from a ruptured spleen by utilizing the diaphragm, and I think Dr. Kean should be given credit for the procedure.

In diagnosing internal injuries of the abdomen the surgeon is usually puzzled as to the extent of the lesion of the viscera. The lesion itself has a range from a simple bruise to a rupture of a solid or perforation of a hollow organ. In many slight injuries the peritoneum takes care of the lesion. The diagnosis is usually made by a close observation of the beginning symptoms of shock or peritonitis, and if in doubt open and inspect the organ in question.

No doubt in the second case the boy owes his life to the early diagnosis and the prompt measures taken. As Murphy has aptly expressed it, "A keen surgical sense is what is required by the physician who first sees the case."

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THE TREATMENT OF MEDICAL SUBJECTS BY THE LAY PRESS

HENRY O. SMITH, M. D., Hudson

There are few things of more importance in this world than the proper education of the people. And the two great agencies which have most to do with education are the public schools and the press. We give lavishly of our money in order that our schools may be of the highest order. We employ trained teachers and give them every facility to carry on their work under skilled supervision to the end that the early education and training of our children may be along right lines. But the greatest force which has to do with the moulding of the minds of men, after school days are left behind, is that of the press. The monthly magazines, which within a few years have become so numerous, wield a great influence, but still greater is the influence of the metropolitan press, and greatest of all, perhaps, the power of the local newspapers in shaping the thoughts and influencing the minds of their readers. How important it is, then, to the general public that the various items and articles in the lay press having to do with medical subjects shall be safe and sane in character and of such a type that the mind of the reader may receive correct impressions and that his education as to things medical may be such as to conduce to the physical well being of himself and all with whom he has to deal. As an example of a good type of such articles it may be permissible to refer to a series of brief articles on hygiene and medical topics which have appeared weekly for

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many years in the Youth's Companion. I have read very many of these and do not recall one which was in any way objectionable or which did not deal forcibly with some live topic in such a way as to be of great value to the average layman. Of a far different type is an item which recently appeared in Life, relative to the antityphoid inoculation of our soldiers and sailors. It says "Every such inoculation makes the lads ill ("reaction" is the technical term) and occasionally one of them will pass on," as the saying goes.

The Journal of the American Medical Association characterizes this and similar items as viciously and maliciously untruthful and, if seriously regarded, as liable to result in public injury. The Journal further says, "The comments of Life show glaring ignorance. We do not expect scientific accuracy from that publication, but even clowns should try to keep within bounds of common honesty by being truthful when they attempt to deal with serious matters, especially those which have a practical bearing on the public welfare." As a matter of fact, the Surgeon-General states that of twenty thousand antityphoid inoculations made in the United States' army 65 per cent caused no disagreeable symptom whatever, and in not a single instance has the procedure had any dangerous effects, while there has been no death from this cause. Another example of the undesirable type occurs in the Cosmopolitan Magazine for January, in "The Story of a Deserter," where, after a lurid description of the methods of treatment in the hospital at Fort Ethan Allen in Vermont, the deserter exclaims, "God help the unfortunate soldiers who have to submit to surgical treatment in the army."

The members of the profession know that the surgeons of the regular army are an exceptionally well educated and well trained set of men, but the general

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public does not know this. A few days after the appearance of this article, it was stated in the morning papers that the man who furnished the article was a fugitive from justice—wanted in Pittsburg for the larceny of three hundred dollars,—but many a reader of the magazine has been prejudiced against the medical service of the army and against the medical profession itself, while but few will be brought to realize the utter worthlessness of the man who made these charges.

We still see in the advertising columns of the newspapers announcements of "sure cures" for consumption, of the virtues of "soothing balmy oils" in the treatment of cancer and of unfailing remedies for other conditions which shall be nameless; but the public, knowing that these puffs are paid for, can judge of their worth accordingly.

But, however, what the public has a right to demand and expect is that the news columns at least shall be reliable and free from such misleading material as they sometimes contain. In an issue of the Nashua Daily Telegraph, a few months ago, under the heading, "An Amazing Statement," with the subheading, "Young Doctors Said to Fill Many Graves While Learning Surgery," appeared the following as a dispatch from Philadelphia: "Dr. ———, one of the best-known surgeons in the country, addressing the members of the Northwestern Medical Society, said: 'A medical student fills a graveyard before he becomes a surgeon. I have filled several and don't call myself a surgeon yet. But I have found by long experience that a great many cases of appendicitis and gall stones do not need the use of the knife at all In cases where I do operate I often find that the case is only begun after the operation and I spend nights in worry after many operations. Out of three hundred cases of appendicitis at one hospital with which I am

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connected in the last three months there have been but six deaths. This is due not so much to skillful operating as to care in avoiding the use of the knife.'"

Now if this statement as it stands means anything, it means, "Don't operate in the average case of appendicitis or, if by care you can, avoid it." The ordinary reader is prejudiced by this article against the operative treatment of appendicitis and when he or some member of his family has an attack of it he may strenuously object to or even refuse the operative interference which perhaps in that case would be the only means of saving life. I wrote the surgeon in question, asking if his address appeared in any medical journal. In replying he said, "If you refer to the newspaper report of the meeting, this was entirely wrong." I will make no further comment on the slur about the filling of graveyards, but I deeply regret the publication throughout the country of an article which tends to throw discredit on surgeons and surgery in general, and especially on surgery as a means of cure in a disease where it is so often imperatively demanded.

I am sure that when the editor of the Cosmopolitan in a note speaks officially of the stories of this deserter as "truths," and when the editor of a local daily (and doubtless the editors of many similar publications throughout the country) deliberately prints an article through whose influence lives may be lost that the need of enlightenment is most evident and that a radical change in methods is necessary if the lay press is to be, as it should be, of positive educational value along medical lines.

Intelligent people outside the medical profession are realizing the need of work along this line. In an address given in Chicago a few months ago, George Edgar Vincent, recently chosen president of the University of Minnesota, exclaimed, "Would that Mr. Carnegie's next

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ten million dollar gift might be devoted to publishing in newspapers authoritative bulletins on hygiene and sanitation." I, myself, am deeply and favorably impressed with the action taken a few weeks ago by the Tri-State Medical Society, composed of members of the profession in Virginia and the Carolinas, in voting that the address of the president of the society on "Preventive Medicine" should be published not only in the medical journals but in some lay monthly magazine of large circulation in the South.

We may not be able to prevent the publication of objectionable articles in the public press, but cannot the New Hampshire Medical Society do a work of tremendous importance and value by furnishing the newspapers of the state with articles or bulletins of positive value?

DISCUSSION

EVA M. LOCKE, M. D., Nashua

The need is evident of treatment of medical subjects by the lay press, in something other than the inaccurate and misleading lines of paid advertisements. There are many people who get a good deal of their information from newspapers and there is a greater number than one would suspect of people who will be influenced by the advertisements in connection with some patent cure-all remedies.

I met an incident within a week or two of a woman who was complaining of backache, "of her kidneys' paining her so much" and that "her urine was bad," and she wanted to know if it would be objectionable to try some of somebody's "everlasting" plaster, she believed it was, "it was fine for the kidneys." I said to her, "Where is the pain in your back that you call in your kidneys?" and she put her hand directly over the lower part of the sacrum. I examined her urine and found that the heavy sediment which I suppose she thought was pus

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was shown under the microscope to be a deposit of triple phosphate. She did not employ the plasters.

A few days later while she was under treatment from me, this same woman rather incidentally mentioned as I was leaving that she was taking some herbs that she had steeped and they were doing her lots of good, but would it interfere with my medicine which she was taking? I said to her, "What herbs have you?" She said she saw it in the Globe I believe, and it consisted of dandelion, sassafras, cascara sagrada and a good many more she could not remember. She knew they were all right, she knew the druggist in Lowell who put them up, "Collins' herbs," I believe. I looked on the box and pointed out to her one thing claimed that it surely could not cure because it was a skin disease of parasitic origin and there were others in it that were no more effective I have no doubt. I did not think it advisable for her to continue it and my medicine, as you may suspect.

Another incident was that of an energetic, hustling woman of 40 to 50 years, working at a trade, from whom I removed a small fibroid recently, who had surprisingly little definite knowledge of particular anatomy or physiology of the parts involved, or of self in general. She was free from erroneous impressions, but she had gained from the reading that came her way in daily and current form very little of ordinary lay medical knowledge.

There are other classes that come under my knowledge who are well informed students in other things who haven't the slightest idea about what kinds of food are difficult or easy of digestion, things which we would feel one ought to know naturally almost. And so on, more striking examples of which many of you could recall, I have no doubt, from your own practice.

This is their need. How can it be reached? Cannot attractive articles be put before the public who read

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much on other things, articles such as will give them accurate and valuable knowledge. These are subjects that are interesting as fashions or politics or whatever else is absorbing and are surely as vital and of socialistic and community value, as well as of personal interest to those who could thus be informed. It is true that a great deal of information and training in health matters comes from personal influence and personal information from those who are well able to impart this knowledge,—as well informed parents, the family physician, and to some extent teachers. There is also, however, a large place for good literature from the press to exert its influence. In this connection beside the daily newspapers and current magazines there are books and special leaflets which may exert a wide influence. Among the books are books on special subjects as on sex hygiene which, if the subject matter is well handled, exert an untold influence on the morality, purity and happiness of the lives of those reached by them. I believe with the young this reading needs personal contact as well and I would advise the reading of such a book to be with a parent or with some suitable older person. I advise mothers in my own families for instance to take such a book as William Sperry's "Confidential Talks With Young Women," which, in its unfolding of the truths of life from plant and animal life in a natural, healthful way, treats these sacred and vital facts with greater delicacy and naturalness than any other book I have read on the subject. I advise mothers to take this book and read it early in the child's life, long before the child is ready to read it herself, and be ready to meet little questions as they come in a way that moulds the child's mind and prepares it for the reading of the book little by little with her later.

Other books of an instructive nature are text-books such as are used in schools on subjects of hygiene and

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physiology which ought to be of a better and more attractive class in many of our schools than they are now, I believe. Then there are the pamphlets gotten out by Health Bureaus, of an instructive nature of which the aim is to instruct the public on matters of health and disease, as pure food, contagious diseases, danger of public drinking cup, of the housefly, etc. These are used somewhat through our women's clubs, I understand, as well as that they are sent to the general public desiring them. There is another class of books which is not avowedly instructive, but nevertheless may exert a wide influence because read by many, and that is books of fiction. Among these there is only one I will mention, a book which speaks strongly for intelligent suppression of the quack and patent medicines and incidentally creates an increased appreciation and respect for the progressive physician, a woman physician it happens to be in this case mostly, but not exclusively. The book is entitled "Dr. Ellen," by Juliet Wilbor Tomkins. There are other books of fiction which belong in this class, I am sure, which I do not have knowledge of at present.

EDWIN F. BOWERS, M. D., New York

This is a very, very large question. My old friend in Baltimore has written a series of articles which appeared in a magazine. If I remember rightly, the first dealt with gonorrhœa and was entitled "The Black Plague." The doctor showed conclusively that frequently blindness in children is due to infection at the birth, and we should have much more rigid practice and general enlightenment of the social body especially with reference to the practice of midwifery. Judge Foster has written a series of articles, one of which appeared in the "Metropolitan Magazine," on the black plague of the south. This dealt with the effects of gonorrhœa among the negro race, and

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the judge made the statement there that 100 per cent of male negroes over 18 were affected by either one or the other of those venereal diseases and 60 per cent of the females over the age of 16 were affected. Now it is advisable that the public be educated as to the gravity of these conditions and the necessity of prophylactics, and the doctor's paper I think is timely and brings up a phase of the matter which the general public should be thoroughly familiar with from an authentic source.

Closed By Dr. Smith

Those of you who have read in the April 15 number of the Outlook the article of Theodore Roosevelt, "The Relation of the Newspapers to Patent Medicine Makers," know that they derive a large portion of their income from the advertisements of patent medicines. We all know that Roosevelt's services have been many, but it seems to me that this article is not one of the least of these services, and I am sure that the publication of articles of this type written by men of authority on timely topics will be productive of very much good along the lines of which I have spoken.

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REPORT OF CASE OF SKIN GRAFTING OF THE SCALP

WILLIAM E. LAWRENCE, M. D., North Haverhill

In looking through text-books and medical journals, one is impressed with the fact that very little is said about skin grafting which may be necessary following severe wounds of the scalp. The variety of scalp wounds with which this paper deals is very uncommon, and the skin grafting is a class by itself; and, so far as I have been able to observe, seldom has a case been reported. For these reasons and as I attended a case recently, I decided when invited to read a paper at this meeting to give you the benefit of my experience and the result of my brief investigation in this class of cases. So this paper deals with that class of cases in which portions of the scalp are torn off completely. For the purpose of description, I have divided this class of cases into two classes.

1st. The cases in which it is possible to suture the part torn off back on without loss of the part torn off. 2nd. Those cases in which the part is lost or if sutured back on sloughs or dies and its removal becomes necessary.

First class.—It has been found possible to save portions of scalp tissue torn off provided the amount is small and and in good condition when found and is recovered soon. The detached portion should be placed in warm water, well cleaned, hair shaved and edges freshly trimmed. It should then be placed in warm normal salt solution and kept at a uniform temperature until ready for use. The patient's scalp should be shaved and edges of the wound thoroughly cleaned. They should be trimmed as the suturing proceeds. The uninterrupted catgut suture is to

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be preferred to any other. Gauze saturated with warm normal salt solution should be kept over the part and frequently changed for the first few days. At the end of the second day, it is usually possible to determine whether any portion of the scalp tissue which was replaced may be saved. When the part torn off was small, the circulation is evident at this time and adhesions will have formed between the scalp and cranium.

In considering those cases in which the scalp is torn off and destroyed or if sutured on fails to unite and is of necessity removed so that skin grafting is necessary, I submit the following report of a case which occurred in May 1909.

CASE REPORT

A young lady was thrown from an automobile, dragged beneath the machinery which caught the hair of her head and tore off a portion of the scalp from the top of her head. The size of the part torn off, which was in one piece, measured 6¾ inches by 7¾ inches. Saw the case about one hour after the accident. There were several scratches over the frontal bone but the outer plate was not broken in any place. There had been no serious bleeding from the wound and patient had suffered no symptoms of shock or concussion. The detached portion of scalp tissue was found, placed in warm normal salt solution, thoroughly cleaned and hair shaved and edges trimmed. It was then placed in warm normal salt solution and kept until ready to be used.

The patient's head was shaved and the edges of the wound cleaned. It seemed unlikely that any amount of this torn off tissue could be replaced and unite, but the patient's condition seemed so good and the detached portion was in such good condition that it seemed the only thing to do. The patient was given an anaesthetic, the edges of the wound trimmed fresh and the detached

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portion was sutured back on using a continuous suture of number two catgut. A plain dressing of gauze was applied which dressing was renewed every two hours for the following twenty-four hours.

Second Day.—Along the line of sutures, the tissue was adherent and the circulation seemed to have been partially established over about one-fourth the entire portion. The same dressing was continued.

Third Day.—The centre of the affected area on top of the head seemed dead, was much whiter than the day previous and a septic odor was noticed. This condition seemed to be spreading rapidly and the patient appeared for the first time critically ill. Temperature 103, pulse 120. About one-third of the tissue which had been replaced was dissected off, taking this from the centre. The edges were thoroughly cleaned and over the whole area was placed a dressing of chlorinated soda; 1 drachm to 1 pint of warm water. This dressing was renewed every three hours.

Fourth Day and Following.—Patient's condition seemed better; small pieces of dead tissue were cut away and dressings were continued as before. From this time on for one week, small pieces of dead and dying tissue were cut away each day until only a strip of tissue about ½ an inch wide extending half way around the edges of the scalp was left and this portion was saved. The cranial bones, as soon as the soft tissue was removed, were kept covered with petrolatum. The chlorinated soda solution being applied to soft tissue only, was discontinued in about one week after which the scalp was dressed with compresses of normal salt solution. Five days after cutting away the first portion of dead tissue, a small island of granulation tissue appeared over the space occupied by the anterior fontanelle and one week later a tiny row of granulations appeared along the line of the coronal sutures on each side . Those first mentioned

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grew quite rapidly; the others more slowly. All the granulations were stimulated to grow by lifting the edges and scraping them and the following day painting the edges with balsam peru. This method was followed every day until the whole part was covered with granulation tissue.

Three weeks after the accident, there was some shedding of the outer plate of the parietal bone over the parietal emminence but as th scales of the bone came off, granulations came out and the inner plate did not appear to be affected. After the granulations had covered the parietal bone, a very thin scale of bone tissue would grow over the granulation tissue in places on the parietal bone. These pieces were picked off but would grow again in about five days. This growth of bone was only stopped by a thorough curetting and repeated skin grafting. This bony formation may be explained as follows:

The outer plate of the skull being poorly nourished normally receiving most of its nourishment from the periosteum and external vessels easily dies and when thrown off, the space between the outer and inner plate being rich in embryonic tissue cells from the inner plate supplies bony cells which grow and multiply on the surface in the absence of the outer plate and the periosteum.

During the fifth week, the granulations having covered the greater part of the vault, the only part left being a space over the frontal bone two inches square, skin grafting was commenced over the area where the granulations first appeared. The method adopted was Thiersch's. The subjects from whom the grafts were taken were the patient herself and young adults of the same age. The site chosen for taking the grafts was on the outer side of the leg midway between the knee and ankle. The part was prepared the night previous to grafting and as follows: Thoroughly scrubbed with soap and water, shaved rinsed with ether and afterward with sterile water and a

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dressing applied of gauze saturated with solution of 10 per cent. sol. boracic acid. The following morning just before the grafts were removed, the part was rinsed with sterile water. The granulations on the scalp were prepared to receive the grafts as follows: A thin layer of tissue was carefully dissected off and the part carefully wiped of dry blood and serum.

In applying the grafts which were cut with a razor and as thin as possible and one half inch wide by one and one-half inches long, it was necessary to press each one down firmly before the next one was applied and to a little more than cover the whole area also to overlap the edge of each graft with the following graft. Failure to carefully observe these steps resulted in every instance with the loss of grafts by the excessive growth of granulation tissue which would grow up between the grafts and over the edge outside the grafted area. From each subject was obtained sufficient to graft a space one by two inches and each island of grafts would increase in size by about one-fourth its original size and then remain stationary. Over the grafts was placed a piece of perforated oil silk which had been kept in normal salt solution for twenty-four hours and large enough to a little more than cover the graft. Over this was placed a dressing of gauze saturated with warm normal salt solution which was not changed but kept moist for three days. At the end of this time, the dressing was all removed and a fresh dressing applied which was renewed daily. When the grafts were one week old and had taken well a bluish pink color was evident and by gently pressing on each little graft capilary circulation could be detected. It was found that grafting made to new grafts within ten to twelve days would result in loss of both the old and the new grafts.

Grafting was done every other day and the time required to cover the area was eight weeks or fourteen weeks from the date of the accident.

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During the grafting process occasionally one was lost which usually occurred within two weeks and could always be accounted for.

About one month after the grafting had been completed, the patient suffered from an attack of influenza and a portion of the graft over the parietal bone on each side was shed. This space on each side was about one and one-half inches square. These spaces were grafted as before since which the grafting has been permanent.

After skin grafting over so large an area of new granulations on the scalp as in this case in order to preserve the grafts and retain the functions of the skin as much as possible, it should be remembered: 1st. Tht the blood vessels in the new tissue are small at first but increase in size, hence the head should have a warm covering and the patient should avoid cold air for several months. 2d. The new grafted area has no sweat or oil glands and this need must be supplied by artificial means. My own experience was that the mineral oils served the purpose better than the animal or vegetable oils. 3d. The new granulation tissue on the scalp is firmly attached to the cranium and unlike the soft tissue is quite immovable. The ordinary working of the muscles of the face and neck cause more or less mechanical irritation along the line where the movable and immovable tissues join and festers and ulcers are sure to form here more or less. This condition is likely to persist for several months or until the circulation is more active and the skin more tough. In the case reported, this condition was best treated by keeping the parts soft with 1 per cent carbolic petrolatum and occasional applications of equal parts of glycerine and balsam peru.

For the past year it has only been necessary to apply daily a little petrolatum which the patient does.

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EUGENICS AND MEDICAL SOCIOLOGY

EDWIN F. BOWERS, M. D., Hartford, Conn.

Sir Francis Galton declared Eugenics to be, "The science which deals with all influences that improve the inborn qualities of the race, also with those that develop them to the utmost advantage."

Broadly speaking, Eugenics points out the importance of paying at least as much attention to the breeding of human beings as is now devoted to the development of the best strains in poultry, pigeons, Angora cats or pug dogs.

It is axiomatic that the stream can rise no higher than its source.

Small wonder then that from degenerates, sexual perverts, drunkards, thieves, epileptics, syphilitics, the insane, the physically, mentally and morally deformed, there should be transmitted these gross defects, the results of which are reflected upon the penal, insane and eleomosinary institutional burdens.

The ostrich exhibits supernormal intelligence in comparison with our criminal negligence in permitting this interbreeding of the unfit.

Eminent jurists, as Judge Warren W. Foster of New York and Judge Dixon of Virginia, have thundered diatribes against the continuance of this pernicious evil; clear headed physicians, Dr. Allison, superintendent of Matteawan State Hospital for the Criminal Insane; Dr. J. J. McEarthy, of Baltimore; Dr. William D. Belfield, of Chicago; Dr. Byron W. Robinson, of New York; Dr. Abram Jacobi, the Nestor of modern medicine, head of the newly originated "Society for the Study of Medical

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Sociology" (of whose aims I shall have occasion to speak later), and Dr. H. C. Sharp, of Indianapolis (the first man, so far as I know, to perform the operation of vasectomy, a radical cure for congenital criminality in the male), and hosts of others writing, preaching and fighting for the "Common Good."

By way of emphasis, permit me to call your attention to the contrast of two statistical reports,—

You will find in "The Jukes, a Study in Crime, Pauperism, Disease and Heredity," by R. L. Dugdale (Putnams, 1877), that the ancestor of this famous (or infamous) family was born of Dutch parentage on the then frontier of New York, somewhere in the neighborhood of 1730. He was a hunter and fisher, a drunkard, working intermittently, lived to an extreme age and left an enormous progeny.

Of his direct descendants, 709 have been traced. I quote from Judge Foster: "The family, while it has included a certain proportion of honest workers, has been on the whole a family of criminals, prostitutes, vagrants and paupers. Not twenty of the men were skilled workers and of these ten learned their trade in prison, while 180 received out door relief to the extent of an aggregate of 800 years. Of the 709 there were 76 criminals. Of the females, more than half were prostitutes (52.40 per cent. The normal average has been estimated at 1.66 per cent).

During this period the "Jukes family cost the State a million and a quarter dollars, without considering the awful legacy of crime and criminals which they left behind them."

Turn we now, by way of contrast, to a research made into the history of the Edwards family, of New England. (Data to be found in Boie's "Science of Penology.")

Jonathan Edwards, born at East Windsor, Conn., in

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1703. One thousand three hundred and ninety-four of his descendants were identified in 1900, of whom 295 were college graduates; 13, presidents of our greatest colleges; 65, professors in colleges; 60, physicians, many of whom were eminent; 100 or more, missionaries, clergymen or theological professors; 60, prominent authors; 100 or more lawyers, of whom one was our most eminent professor of law; 80 held public offices; 1 was vice-president of the United States; 3 United States senators; several were governors, members of Congress, mayors of cities and ministers to foreign courts, and almost every department of social progress and of the public weal has felt the impulse of this healthy, long-lived family. It is not known that any one of them was ever convicted of a crime.

This is a demonstration beyond cavil of the strength of heredity in perpetuating ancestral traits, both virtuous and criminal.

And now, what do we propose to do about it?

There is a remedy, an absolutely feasible, safe and effective remedy. It consists in asexualization, by an operation known as vasectomy, first performed (as I said before) by Dr. H. C. Sharp, of Indianapolis.

This consists in making a resection, cutting out a small portion of and occluding by ligation, the vas deferens, a minute duct, through which the spermatozoa pass to the seminal vesicles.

Dr. Sharp thus describes the procedure:

"The operation is indeed very simple and easy to perform. I do it without administering an anæsthetic, either general or local. It requires about three minutes' time and the subject returns to work immediately, suffers no inconvenience and is in no way impaired for his pursuit of life, liberty or happiness, but is effectually sterilized.

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I have been doing these operations for nine full years (1909). I have 236 cases that have afforded splendid opportunity for postoperative observations, and I have never seen any unfavorable symptoms. There is no atrophy of the parts, no cystic degenerations, no disturbed nervous or mental conditions following, but on the contrary, the patient becomes of a more sunny disposition, brighter of intellect and advises his fellows to submit to the operation for their own good."

In personal letters to me the Doctor amplified these statements, and said that more than 900 men in Indiana had been vasectomized with absolutely favorable results.

Thousands of men are now thoroughly sterilized (although they are probably unaware of it) through the effects of mumps, orchitis, etc. There is no diminution of sexual ardor, but there is complete obliteration of the procreative ability.

The Indiana State Laws, requiring a certificate of health, prohibiting the marriage of the unfit and enforcing the sterilization of the criminal and the degenerate, are epoch marking advances.

A similar law was enacted in Connecticut but, so far as I was able to ascertain, it has not been enforced (probably in deference to the ultra-conservative Puritanism that it would controvert the "Law of God" to do anything to interfere with the divine (?) right of a degenerate or a criminal to perpetuate his Calibanish species).

The same conscience, paradoxical as it may appear, has no hesitancy whatever in strangling or shocking the life out of a woman, or to fitting out machines and men for the purpose of murdering their fellows in the insanity called WAR.

Verily the world progresses slowly, and then, in sociological matters anyway, only as it is vigorously kicked forward.

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I believe absolutely that if the Indiana law was universally adopted and enforced all over the world, more real good would follow in an ethical, moral and physical way than has been accomplished by 15,000 years of our dilettantish impracticality, in the grave questions of the prevention of disease and crime.

Herbert Spencer pointed out that the education of a child should properly commence with the grandparents. Eugenics emphasizes with equal clarity and vigor that the physical and moral basis of society is a sound mind in a sound body. If we prevent the propagation of the weakling and the insane, the epileptic and the pervert, the alcoholic and the nymphomaniac, the monsters who defile the pages of Krafft-Ebbing and Shrenk-Notzing, and the cruelly vicious, we stem the turbid stream at its source, and thereby prevent the pollution of our social organism.

"An ounce of prevention is worth several pounds of cure." This is, in substance, what Plato outlined in his "Republic," in that time "when Kings shall become Philosophers, and Philosophers, Kings."

Eugenics is to constitute one of the subjects with which the society for the Study of Medical Sociology will concern itself.

Now, in the same general direction, if the epoch making discovery of Erlich (dioxediamidorarsenobenzol, known as 606) proves its promise, the stamping out of blood diseases of syphilitic origin is imminent. The race will take a vast step forward, our insane asylums will discharge 50 per cent of their patients as cured, millions upon millions will accrue to the aggregate wealth of the world from increased human efficiency and humanity will be delivered of a loathsome incubus. Then, with a better tenement inspection law, and the collective ownership of the giant monopolies which oppress the workers,

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the poor "cog in the wheel" will be afforded an opportunity to be something better than a mere beast of burden;. and also tuberculosis, the "disease of poverty," will be stamped out.

No one, more than the physician, realizes the truth of Pope's lines that "Man's inhumanity to man, Makes countless thousands mourn." Let us hasten the day, by every educational and moral stimulus, when this glorious Eugenical era will be a reality, and the Race be freed from poverty, disease and vice.

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MEDICAL PRACTICE LAWS

JOHN M. GILE, M. D., Hanover

I shall not try to present a history of medical legislation in general, nor even the phases of it that have appeared in New Hampshire. I desire merely to indicate some of the conditions that now confront us.

Since all the business of the society has been done by the house of delegates, the great body of its membership has had little opportunity to express itself on broad questions of policy and no general discussion has ever been held in regard to the public statute under which we practice. It is for this reason that I offer the few suggestions contained in this paper, and with the hope that it may bring out a free expression of views on the subject.

Our present medical practice act has been in operation fourteen years, a sufficient time to develop its failings and also a sufficient time for conditions to so change as to make new legislation advisable.

For example, the examination fees have not proven sufficient to pay the expenses of the board, the section relating to penalty for infringement of the law does not seem to be sufficiently explicit to secure prompt prosecution, the relations and attitude of the so-called schools of medicine have so changed that it would appear to be desirable to leave all questions of therapeutics out of the examinations and have one combined board in place of the present cumbersome three-headed affair; the power to arrange for reciprocity with other states should be in the hands either of the board or the regent instead of as at present making a conflict of authority, and the

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regency should clearly be transferred from the non-medical department of public instruction to the medical department of public health.

Your legislative committee in conference with the boards of examiners had a bill drawn embodying the above suggestions and also demanding increased preliminary education before entering upon the study of medicine.

The history of the attempt to pass this innocent bill is both interesting and illuminating. When the bill reached committee, osteopaths represented by able counsel began clamoring for amendments that would allow them to take the examination and receive a license enabling them to practice any form of medicine or surgery now allowed to any general practitioner or specialist in medicine.

They asked at first for a special provision as to the length of their course of study but later agreed to submit to all the conditions of the bill except that the prequisite of the M. D. degree should be stricken out since their school does not give this degree.

Your committee insisted that the M. D. requirement for the state examination should not be abolished on the ground that it was an important safe-guard to public health and the best stimulus to the advancement of medical science. The result was a practical deadlock in the senate committee and the bill was allowed to be killed rather than run the risk of its passage with the osteopathic amendment attached.

A bill was then introduced in the senate by the osteopaths creating a board of their own that could conduct examinations and grant licenses that would give the holders all the rights of any physician to practice any form of medicine or surgery. This bill promptly passed the senate and your committee feared that it

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would have equal success in the house. It appeared to us from every standpoint to be the most undesirable and disastrous medical legislation that could be instituted and it was felt that it would be the wiser course, if they were to gain the full privileges of general practitioners, to have them pass their examinations under a board of regular practitioners. A conference held with their attorney resulted in the drafting of a tentative bill which it was proposed to introduce through the house commitee on public health.

When this bill was presented to that committee, we first realized what an able, clear-sighted, hard fighting body it was. They declared they would have nothing to do with the introduction of such a bill, that it was an injustice and an imposition for the nine or ten osteopaths in the state to make any such demand, and, further, that they would go on the floor of the house and kill the osteopathic bill that looked to the appointment of their own examining board. They did it successfully and deserve the thanks of this society for their vigorous and efficient action.

Our medical practice act stands, then, where it did at the beginning of the session and as the changes proposed were matters of convenience rather than urgent necessity the result might have been worse.

Another matter of interest to the profession did not have as satisfactory issue. The opticians introduced a bill for licensing the practice of optometry, so called - in other words the fitting of glasses. This bill was passed and enacted into our laws. It provides for the appointment by the governor of a board of five examiners, three opticians, one general practitioner, and one oculist which board may examine applicants and license them to practice optometry. The optometrists had done much preliminary work in the matter, seeing many members of the legislature and circulating petitions among the phy-

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sicians in the state with the result of securing considerable numbers of favorable signatures in our own profession. In addition to this they argued, and the argument was not successfully controverted, that they were now doing 75 per cent of the glasses-fitting work in the state and that it should be regulated by law. In other words the legislature had to deal with an existing fact, not with a theory or a condition that might arise. With these conditions and with the headway gained the success of the bill was inevitable.

The osteopathic fight will recur with each legislative year and the selection of your committee on public policy and legislation should be most carefully made. The difficulty of getting this committee together when needed often on short notice, suggests the wisdom of having a majority at least of its membership as near Concord as possible.

DISCUSSION

W. H. Lyons, M. D., Manchester

I have listened with a great deal of interest to the paper of Dr. Gile's, and I want to say a few words in regard to that subject; in the first place of the difficulty which the members of the state society experience in a new organization of making their views known of any particular policy which is in question before this society. The difficulty was realized by a great many of the members of the society who were opposed to the form of organization which was adopted when the New Hampshire Medical Society joined the American Medical Association and it certainly has its disadvantage. With regard to that special medical law which was in question at this session of the legislature, it was practically impossible for the members throughout the state to keep in touch with the state affairs at all. The newspaper accounts were so meagre and the official reports were

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such that I think nobody out of Concord knew what was going on at all. It seems to me in the first place that the committee if they were responsible for the bill were altogether too timid. They were afraid of this and of that. At the very time they were attempting to put this bill through in this state for the special exemption of Christian Scientists or practitioners, or whatever they call themselves, the county society in New York was engaged in an active warfare on two practitioners whom they had had indicted at their own expense in New York state. It seems a ridiculous thing for a medical society of this state to put in a bill exempting Christian Science, and I hope the day will never come when they will pass such a law in this state. That is all I have to say in regard to the legislative bill. I am glad that the medical practice bill did not go through. We had a bad enough one before, but I think perhaps this one was a little mite worse.

I know something with regard to the optometry bill as it was called. It was true that these optometrists made great efforts to enlist support for their bill. They certainly did, and it was a surprising thing that they could circulate petitions through the membership of the New Hampshire society and through the physicians at large in the state and obtain their signatures to any such a proposed law as they did. They did obtain a great number of physicians' signatures, a great many in Manchester, and it was a surprise that they could obtain those names, but the thing most striking about it was the apathy on the part of the legislative committee of the New Hampshire Medical Society with regard to this bill. Nobody ever appeared at the hearing to object to the bill. So far as I have been able to find out, they never did one single thing towards preventing the passage of this bill. It was reported favorably and of course passed through the house. It came into the committee in the senate, and

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I understand that if one physician on that committee had been present and registered his vote in opposition to a favorable report on that bill, it would have given the committee a majority and they would have been able to present an unfavorable report on the bill. I gather from Dr. Gile's paper—I do not know that I understood some things that were contained in the paper—but I gathered from it that he did not consider the passage of the bill a great evil. He said something about the number of people who are fitted with glasses by these gentlemen who call themselves optometrists, and said it was a condition and not a theory, but I attended the committee meeting in the senate of the committee on public health when the bill was referred, and I heard most able argument made against the bill by Dr. Bossidy of Boston whom I understand was there through the efforts primarily of some of the men in Manchester who were interested in seeing that the bill should not pass, if possible, aided by some of the members here in Concord, but in so far as I know in no way did the legislative committee of the New Hampshire Medical Society do anything about it. Dr. Gile speaks about the difficulty in getting the members of this committee together and states that he thinks it would be well to change the personnel of that committee in such a way that many of them would perhaps be here where they could easily get together. I agree with him as to the necessity of a change in the personnel of that committee, but I am at a loss to say how it is going to be brought about.

CLOSED BY DR. STAPLES

I was asked to discuss the paper, but I think that Dr. Gile has covered the ground in a way that I better not take any time of this society this afternoon. There are some more papers to be read and there certainly is not time for more discussion.

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COMA AND ITS CONGENER.

PARK R. HOYT, M. D., LAKEPORT, N. H.

The only excuse for the existence of this paper is the author's desire to bring before you in a summarized form a few points which may be helpful in dealing with a person in the unconscious state.

It is not our object to bring forward new points, but only to offer a brief review of conditions we may find in an emergency.

"Coma covers any state of profound unconsciousness, from whcih a patient can be aroused partially, temporarily with difficulty or not at all. The border line between different degrees of unconsciousness and profound sleep is very vague and ill defined."

Stupor and drowsiness are so intimately associated with coma that their consideration may be taken up at this time.

Assuming that a patient is seen for the first time, on the street or in the home and is comatose, the difficulties of diagnosis are manifest.

It may be a case for the surgeon or for the therapeutist, but at all events it is up to the diagnostician.

Many avoidable errors occur either from lack of proper method of examination or from the tendency to "snap diagnosis."

The conditions under which such an attack occurs should be sought from bystanders or from some friend or relative who was near. His previous health should be learned, his habits as to drink and drug addiction also.

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Many times the conditions under which coma supervenes give us important data, as to the odor of gas or of gasoline vapors; drugs as the volatile oils, or an overheated atmosphere may suggest heat exhaustion or sunstroke.

We inquire at once if the patient has received a blow or fall.

If there is no history or evidence of such, we are probably dealing with some disease in which coma is but a symptom.

Determine if possible, what the patient has taken into the stomach, having in mind, drug poison, ptomaines, and more commonly the overloading of the stomach of a person subject to "heart trouble" or arteriosclerosis.

Many times the information received on these points is unreliable, and the physician is thrown upon his own resources, without a clue.

The most probable causes are alcoholism, apoplexy, epilepsy, uræmia, cerebral embolus, if the patient is young, diabetic coma is probable. Lastly the poisoning by the narcotics; if delirium is present the belladonna group, if convulsive, nux vomica derivatives.

Taking up the signs of poisoning or disease, in the order that we naturally observe them, the general condition first receives attention, and the patient is made as comfortable as possible.

(1.) The skin in alcoholism is usually flushed; in apoplexy or cerebral lesions it may be flushed but is more frequently cyanosed. With uræmia there is a peculiar pallor and puffy appearance; while in acetanalid, asphyxia, or gasoline poisoning the cyanosis is extreme.

(2.) The degree of unconsciousness should be tested 1st. by the conjunctival reflex. 2nd. by the police method of pounding the soles of the feet, or by pinching the

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supraorbital nerve, both of which usually cause the "faker," the alcoholic and the hysterical to move or to cry out.

With the more serious conditions the unconsciousness is so profound that no ordinary means will arouse him.

Alcoholics will usually respond enough to mutter in a desultory manner.

Opium poisoning if not so profound as to be hopeless will display signs of returning consciousness.

(3) A patient's breath may be strongly alcoholic, either from over-indulgence or from the fact that a by-stander has offered first aid from the time-honored flask.

The uræmic breath is difficult to distinguish from a multitude of other toxic conditions, where the breath is foul.

The "cider-like" odor of the breath of a diabetic is almost diagnostic.

(4) The behavior of the pupils is important, especially if cerebral hemorrhage is suspected.

Unequally dilated pupils suggest cerebral hemorrhage or paresis; if hemorrhage, the larger pupil will be on the side of the lesion.

Lovett and Munro, in studying factors of hemorrhage within the skull, state that in nearly all fatal cases of fracture of the base, the pupils fail to react, while the cases which recover retain the pupillary reaction.

Diilated pupils with half-open lids and wandering eyeballs suggest diabetic coma or alcoholism. In uræmia they are dilated and refuse to react either to light or to touch. The same is true with chloral and cocaine poisoning in the late stage.

A contracted pupil would suggest opium poisoning, and is persistent throughout the course of the poisoning, and only dilating in death.

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If the pupils are dilated and the conjunctiva anæsthetic, together with general convulsions, epilepsy or strychnia poisoning are at once suggested.

If much resistance is made in attempting to part the eyelids, hysteria or malingering is suggested.

(5) The patient's extremities should be sufficiently handled to ascertain if paralysis, either spastic or flaccid, is present.

(6) In all cases the rectal temperature should be taken, and particularly if the case is supposed to be an alcoholic one,—for many times pneumonia or cerebral lesions occur during the unconsciousness of an alcoholic.

An elevated temperature does not absolutely rule out hysteria, but it is more significant of cerebral hemorrhage or a beginning pneumonia.

In cerebral hemorrhage the surface temperature being higher by a degree on the paralyzed side.

(7) Convulsive movements are frequently encountered in the comatose; clonic convulsions followed by tonic with absence of opisthotonos are suggestive of epilepsy.

Hysterical convulsions may be strikingly epileptiform, but they are usually irregular and are associated with typical facies, though the lips may be bitten the tongue is not, whereas in true epilepsy biting of the tongue and incontinence of urine is most common.

(8) An examination of a catheterized specimen of urine should be made at the earliest possible moment.

In all medicolegal cases the urine should be preserved in sealed vessels for evidence, sugar of the acetlone reaction giving us an all-important clue in the diagnosis of diabetic coma, and albumen or casts, of uræmia.

In diagnosing an unconscious condition, we must combine the scattered findings into a definite picture, to compare with other similar states.

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Two conditions which resemble apoplexy are thrombosis and embolism of the cerebral vessels. The separation of the paralysis due to hemorrhage from that due to thrombosis depends more upon the history of the patient than upon the symptoms actually presented. Hemorrhage usually follows some exertion and takes place during the waking hours, whereas thrombosis develops during periods of rest, as in sleep. The coma following thrombosis is brief in duration and is followed by mental clearness. A history of syphilis or other infectious disease, which has predisposed the blood or blood vessels to such a condition will be later found in many cases.

In embolism the onset of symptoms is in the waking hours, as a rule, and the discovery of the source of a clot, as in endocarditis, may determine the case. Unconsciousness in this last condition is much more transient than with hemorrhage.

According to Dana, the chances are as 6 to 1 that the case is hemorrhage rather than embolism or thrombosis.

From the comatose stage of alcoholism, apoplexy can be differentiated by the history, perhaps by the odor of alcohol on breath, by the fact that there is motion in the extremities and by the cool, moist skin compared to the dry, hot skin of apoplexy.

In epilepsy the cry, the bloody froth at the mouth, the convulsion and the profound coma are more constant than in any other state.

Epilepsy is common in the young; apoplexy in the advanced years. Scars may be found from previous attacks of epilepsy.

The respirations in the coma of apoplexy continue deep and noisy, the lips and cheek being inflated on one side

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on expiration. With epilepsy the breathing soon becomes quiet.

The coma of uræmia and of diabetes may be mistaken for cerebral hemorrhage, but the œdema of the lower extremities, the urinous odor about the patient and the albumen in the urine easily diffrentiate uræmia. The condition of diabetic coma is separated from cerebral hemorrhage and uræmia by the peculiar breath, the presence of sugar and acetone and the absence of high arterial tension found in both the former. With the acid indication of diabetic coma, the patient resembles alcoholic intoxication.

Deeply unconscious, with half-opened eyelids, wandering eyeballs and dilated pupils, he breathes with a deep inspiration and a quick expiration, constituting dyspnœa; temperature subnormal and cyanosis increasing.

Opium poisoning is differentiated by the contracted pupils, by the fact that the patient can be aroused by shouting and by the slow respirations with a strong pulse.

Within a year or so, several cases of fatal coma from poisoning by gasoline vapors have been reported in the journals, and doubtless this number will increase unless the public is warned of its danger.

It would appear that the complex production of combustion or explosion of gasoline is more prone to produce a severe anæmia, while the concentrated, unburned vapors produce stupor, which quickly passes into profound coma and death.

Lastly, it is to be remembered that severe muscular exercise may produce sudden unconsciousness. Marathon runners are sometimes stricken down. The cause has been found to be a hyperpyrexia from suspension of sweating, producing a collection of toxins in the blood, which accounts for the unconsciousness.

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DISCUSSION

CLARENCE O. COBURN, M. D., Manchester

The doctor has spoken of gasoline poisoning, and I have seen two cases of acute gasoline poisoning. I have never seen a chronic case that he speaks of. These cases were men who worked in an enclosed shop where they were running a circular saw by a gasoline engine. One of them was a young man who adjusted a carburetor, and an experienced man told me that the carburetor was wrong and that was the trouble. The first was taken with a severe headache, almost immediately became unconscious and dropped at the side of the machine. When I got there he was coming to. I moved him into the air and he came along all right without any medical treatment, but for two days he was weak. The other fellow was taken practically the same way. He was taken with a severe frontal headache and then suddenly complete unconsciousness for ten minutes. When they got him upstairs in the shop he came out of it. He felt all right and he walked home all right. That was about ten o'clock in the morning and although he would answer questions and seemed to know everything, he remembered nothing until two o'clock. For two or three days after that he was weak and never worked at all. A week or more afterwards he felt pretty mean. I can advance no cause. Whether it was from gasoline or unburned gas or evaporated gasoline, I do not know. He said that he never had had any trouble in the shop before where he had worked for several months, but the carburetor was not adjusted right.

ALPHA H. HARRIMAN, M. D., Laconia

In the absence of Dr. Easton, I would like to discuss this paper because I think I don't know very much about the subject. There is one phase of it that is interesting and that is the knowledge that we get from the analysis

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of urine. We see these pale fat people on the street. We will be called, and they will be unconscious or they will be in a state simulating hemiplegia. They will usually recover without any treatment in the course of half an hour, but the time will come when they will not recover, and they will go into a state of profound coma from which they cannot be resurrected, but if we get a specimen of their urine that will tell the story. That is chronic Bright's disease. It seems that Bright's disease is on the increase. I remember one case which was like this: a woman was getting a little heavy, she was pale and had a convulsion which I think is usually preceded by coma. She was dead before medical aid was called, but the catheter passed into the dead woman made the diagnosis clear. She was well advanced in Bright's disease. I cannot add anything more except to emphasize this knowledge that is always at hand. We can always get a specimen of urine. We have not got to wait for the patient to pass it; if we have a catheter we can secure a specimen even after death. It is a source of great satisfaction to complete our diagnosis.

CLOSED BY DR. HOYT

Speaking of gasoline cases, I have had occasion to see two patients. The first one was a fellow who was in very robust health, and he was working in a closed garage, and it seems they were tuning up the engine and there were products of combustion and the oil, etc. At the end of two weeks he came to me and complained of headache and his heart was going back on him. There was a slight murmur there and the hæmoglobin-scale test showed it decreased to 40. The patient recovered in a month by simply leaving off his work. The second case was one of an attack of indigestion, which was not very prolonged because his fellow workmen removed him from the shop. There were no particular features about it. It looked more like illuminating gas poison.

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DRINKING WATER AS A MEDIUM OF LEAD POISONING

GEORGE A. WEAVER, M. D., Warren.

For a physician practising in a region where the drinking water comes to many homes through lead pipe, the possibility of lead poisoning, as a cause of ill health, is a factor to be frequently reckoned with; and its identification as the primary cause, when otherwise unsuspected, becomes the starting point from which a line of treatment may be instituted that will often produce speedy and permanently beneficial results.

Drinking water as a medium of lead poisoning appears to have been recognized at least as early as 1849, when De Mussey, physician to the ex-royal family of France, in a paper contributed to the Dublin Quarterly Journal, reported to the English speaking world an interesting and instructive series of cases that had been observed and treated by him in the royal household. The important facts determined by this eminent Frenchman were these: The water supply was conducted in lead pipes: the king's family included thirty-eight persons of all ranks; thirteen of the thirty-eight were afflicted with lead poisoning; the children did not suffer; no symptoms of lead poisoning appeared until the lead-polluted water had been in use from five to seven months; the water, having been analyzed, was found to contain lead in the proportion of about one grain to the gallon. Following the publication of De Mussey's paper, the English people, convinced of the danger of lead poisoning from drinking water conducted through lead pipes, began a campaign of enlightenment on this subject

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which has resulted in greatly diminishing, if not altogether abolishing, the use of lead in England for this purpose.

Subsequent investigations have confirmed De Mussey's statements, and it is now recognized as a fact that lead, held in solution in drinking water, is a frequent cause of ill health; that, as a rule, symptoms do not appear until the water has been used about six months; and, also, that children are afflicted less often than adults. Moreover, it has been abundantly demonstrated that women are much more susceptible to the poison than men. Furthermore, it seems probable that in this slow, insidious poison, the physician practicing in rural communities in New Hampshire is dealing with a degenerative agent quite as certain and potent as malaria, and, I believe, many times as frequent as malaria, syphilis and alcohol combined.

Drinking water, as found in its natural state in New Hampshire, is, generally speaking, of excellent quality; but after it has flowed through lead pipes and by contact therewith has formed the soluble carbonate of lead, becomes, from the necessity of its constant use, an element of great danger to all who use it. I have had, all told, samples from some thirty lead-conducted water supplies examined at the state laboratory, and in all of them but one a considerable per centage of lead was found. In some instances, the lead pipe through which the condemned water had been conducted was dug up, and it was found that the solvent properties of the water were so great that it had not only kept the inner surface of the pipe worn very bright, but had actually eaten through the pipe in places, as it dissolved the lead. Of course, in regions where the water contains lime salts, an insoluble sulphate would soon form a protective coating on the inner surface, and hence, after the first few

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weeks, there would be very little liability of the lead being carried in solution.

The proportion of lead in drinking water being too small to produce an immediate irritation, it follows that acute poisoning from the metal in this medium is a rare condition. The malady appears in either the subacute or chronic form. There is no symptom constantly present that may be considered pathognomonic of lead poisoning. The blue line at the margin of the gums may be considered presumptive evidence of lead poisoning, and is seen in both the subacute and chronic cases; but it is frequently absent altogether, and its presence seems to depend on the habits of the individual in the care of the teeth. Wrist-drop, also, due to paralysis of the extensor muscles of the wrist and fingers, is considered presumptive evidence of chronic lead poisoning; but it is not constantly present, and among my own patients I have never seen it when it could be said to have been caused entirely by the lead in drinking water. There appears to be the widest difference in susceptibility among individuals, some showing evidence of poisoning in six months; while others may be drinking the same water for years without noticing any ill-effects. The symptoms vary according to the structures most involved; the poison appears to act along lines of least resistance. The weakest member of a family will be the first one to feel its influence; and, it may be, the weakest organ in the body will be the first one to show definite symptoms. In my own experience, the statements of Putnam and Osler have been confirmed; that is, I find women, as mentioned above, more susceptible than men. But any large number of cases must show greatly varying pictures of the effects of lead poisoning. Nevertheless, there are many cases that show symptoms in common, and hence may be gruoped together, but as Wood says,

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"it must be remembered that in nature not only do these groups shade into one another, but that there are all kinds of mixed cases,—cases which offer simultaneously or successively symptoms of two or more of the various groups."

One group shows a predominance of gastrointestinal symptoms, as constipation, anorexia, abdominal colic especially about the umbilicus, distress after meals, nausea and vomiting, with incidental anæmia, emaciation, intercostal neuralgia, another may show evidence of interstitial nephritis and associated arteriosclerosis. This group is often seen. A third may present evidence of sclerosis of the spinal cord and brain. A fourth may show a multiple arthritis. There may be a perversion or degeneration of any of the special senses. When paralysis is a symptom either a single muscle, group, or groups may be involved. There may be epileptiform convulsions ending in coma, symptoms of locomotor ataxia, poliomyelitis; paralysis of rectum and intestines, vocal and respiratory organs, chorea, intense pruritus, eczema.

Lead has been found in the urine, sweat, and fæces; and in the milk of nursing women. It is very liable to produce abortion, and in such cases it has been found that the fœtus was already dead and showed evidence of lead poisoning, the metal being recovered from the liver and kidneys. It has been found in virtually all of the tissues of the adult. In some instances the bones contained a relatively large amount; in others, the liver, the kidneys, the intestines, the muscles of the heart. Deposits of lead urate about the joints are probably the cause of the arthritis that has often been mistaken for rheumatism.

The degenerative changes produced in fleshy tissues are usually fatty or fibrous. The muscles of the heart

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are often found to have undergone a fatty degeneration, the kidneys and liver become sclerosed; the nerves may undergo either a fatty or fibrous change; the intestines have their walls thickened with fibrous tissue, the glands atrophy, and the lumen is narrowed; the red blood corpuscles are decreased in number but increased in size.

A case is recorded in the transactions of the Pathological Society of London, in which over forty-seven grains of lead sulphite were found in nine inches of the colon. Putnam of Boston in 1890 reported that in the urine of thirty-eight persons presenting no evidence of ill health lead was found in the proportions of 17 parts, while the urine of thirty-six others, suffering from chronic troubles, contained lead in the proportion of 50 parts.

The following cases, selected from a larger number, illustrate the varying symptoms of lead poisoning:

Case I. Patient, boy 3 years old, frail type. Six months after moving into tenement supplied by lead-conducted water which had been proved to contain lead, child began to have a series of attacks resembling cyclic vomiting, became much constipated and anæmic. Despite careful nourishing, life in open air, and citrate of iron, there was no improvement. Family moved from tenement after child had fourth attack, into a house of which the water supply was not contaminated by lead; about two weeks after the change, child had worst attack of all, unable to retain food or drink in even smallest quantities, vomiting and retching several times every day. Blood was vomited and passed from intestines. Rectal feeding only dependence for nourishment for a week. Since then in intervening seven months, child has had only two slight attacks. Is now in good flesh and color, without any medical treatment or change of diet.

Case II. Mrs. A., aged 40 years; nullipara. History of constipation and indigestion extending back about

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three years and uninfluenced by treatment. Fairly well nourished, except anæmic during preceding year, menstrual flow increasingly scanty. Had a number of attacks of severe cold, each attended with dsypnœa. Frequent attacks of what seemed to me might have been intercostal neuralgia. At first visit found patient writhing on bed with severe cold; difficult to keep her quiet long enough to examine her carefully; but found abdomen retracted and most of colic centered about umbilicus. Tongue thickened and small, with whitish coating; pulse 86, tense, neuralgic pain about ribs on both sides. Ascertained that water supply came through lead pipes. Diagnosis, lead poisoning. Confirmed by analysis of water, finding lead. Quieted colic with morphine. Advised that water be discontinued. Began the use of K. I. and continued same for two months. Then gave elix. I. Q. S. phosphate. Patient has not had an attack of colic since the discontinuance of the lead polluted water. Neither has she had any further indigestion; the constipation has disappeared, and menstrual function is now normal. In much better flesh, and plenty of color. Says she never felt better.

Case III. Mrs. B. aged 30 years. Much troubled with menorrhagia before marriage eight years ago. After birth of her baby six years ago, this function apppeared to have become normal. Two years ago moved onto farm supplied with water through lead pipe. During past year had become much emaciated, constipated, anæmic, menstrual flow becoming more scanty every month until at last it was a mere show. Called to see her last December for what she called pleurisy. She had some cough, but it appeared to be caused by bronchitis. Could not discover any abnormality of lungs or pleura, except some tenderness between the ribs on pressure and when she drew in a long breath. She gave history of having

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had a very severe colic the week before. Tongue coated whitish, pulse 80; tense. Careful inquiry developed nothing more that seemed unusual. Diagnosis, lead poisoning. This was confirmed by the chemist finding lead in the drinking water about two weeks later. Strapping the ribs made patient more comfortable. Advised that they discontinue the lead-conducted water. About two weeks after she ceased using the water, but before she began taking any medicine, the menstrual flow appeared, and was satisfactory in appearance and amount. Kept her on K. I. two months and then tonics. To-day, six months after she discontinued the lead-conducted water,she is heavier than before,in splendid color, menstrual and intestinal functions normal. With the Tallquist hæmoglobin-scale, she showed 60 per cent hæmoglobin in December; recently, four days after menstrual flow, she showed 90 per cent.

Case IV. Mrs. C., aged 39 at time of treatment. History of long standing arthritis, uninfluenced by treatment. Had noticed a gradually increasing constipation, which at last required drastic purging. Skin mottled with brownish patches. During year prior to crisis of poisoning, had menstruated only three times; amount scanty. Frequent attacks of pharyngitis and tonsilitis. Frequent attacks of nausea and vomiting; also intercostal neuralgia. Was very anæmic. When called to see this patient, she was comatose; pupils widely dilated; stertorous breathing; pulse 70, full and bounding. No motor paralysis observable. Tongue small, thickened, whitish, blue line on gums. Bled her copiously, and purged with croton oil in tablespoonful of castor oil. Patches cleared up before cathartic acted. Next day she suffered intensely from abdominal colic, centered about umbilicus, and radiating into the chest, arms, thighs and feet. Heart's action feeble. Vomiting uncontrollable. Gradually, this subsided on the fourth day and began to take

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nournishment. Diagnosis, lead poisoning. Confirmed by finding lead in drinking water.

Treatment: Discontinued use of lead conducted water. K. I. internally; Epsom salts also every second day for a few weeks. Finally, tonics. This woman's kidneys at present are infiltrated with fibrous tissue. Otherwise she is quite well. All her worst symptoms have disappeared, as the arthritis, neuralgia, constipation, nausea, vomiting, mottling of the skin, etc. Menstrual function normal. She tells me that a few times since she has attempted to use this same water, but has had to give it up after a week or so, as the colic, neuralgia and constipation and nausea returned.

Case V. Mr. X., man about 60 years. When first called to him, found him comatose; pupils widely dilated; stertorous breathing; pulse tense, 76; no paralysis; cachectic; blue line on gums; whitish tongue; history of constipation. Diagnosis: Lead poisoning. Treatment: Venesection and purging with castor and croton oil. Fæces clay colored for several days by purging. Lead has been found in this man's drinking water, and I have found him comatose and bled him a second time; but I cannot convince him and family that they are suffering from lead poisoning. In course of treating this man, I salivated him with three grains of calomel. It is also interesting that, whereas he has been addicted to use of alcoholic liquor all his life, during late years a very small amount, as one-half ounce of whiskey, gives him intense headache and dizziness. It is of further interest that last year, when I gave this man's wife a combination of two drops of Fowler's solution with one-half drachm of tincture of gentian comp. in water after meals, she experienced what she described as "a horrible suffocating feeling," and after a second experience of this kind, discontinued the medicine. But they continue to use the lead-conducted water.

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Case VI. Mrs. D., multipara, aged about 60 years. History of long standing arthritis; intercostal neuralgia, constipation; urinalysis indicates interstitial nephritis; cachetic. Called to see this woman for an eczematous condition that had covered her back, buttocks, legs and arms; pruritus intense. Diagnosis, lead poisoning. Confirmed by finding lead in drinking water. Discontinuance of lead water, and K. I. cleared up the skin and constipation. Kidney symptoms persist.

Case VII. Mrs. E., multipara, aged 54. Had been drinking from a lead-conducted drinking water for twenty-five years. For ten years past had been in gradually failing health. Had been troubled some with arthritis. In January, noticed increasing pain in ankles. This soon extended to knees. Meanwhile, tender spots appeared at ankles and knees. These gradually thickened up, became inflamed and, after a time, the red color changed to purple, the patient became sallow, anæmic, emaciated; had lost appetite and become constipated. Ankles, legs and eyelids became œdematous. Feeble circulation, dyspnœa, intercostal neuralgia. Lead discovered in drinking water and further confirmed by examination of the blood.

Discontinuance of lead polluted water, with use of K. I. relieved this woman of practically all her distressing symptoms, and she is now in better health than for years.

Case VIII. Mrs. F., multipara, aged 66. When called to see this woman, I did not think of lead poisoning as being a factor in her case.At that time, I had not begun to realize its frequency as a causative agent. I found a case of hemiplegia, and supposed I was dealing with true apoplexy. I performed venesection, and purged patient freely. Kept her on limited diet for a month, and maintained a regular action of the bowels

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and kidneys. Kept head raised and used ice bag pretty constantly. Then began the administration of K. I. as resolvent. This woman within four months made a complete recovery from her motor paralysis, but there was evidence of interstitial nephritis, and her memory was a blank for a year—so much so that she could not remember from one visit to another who I was. She was cachectic in appearance, gave history of long standing arthritis before she was stricken, and also had been greatly constipated for years back. At time of attack, the tongue was drawn to one side, but coated white. All through the several years that she lived after hemiplegia, she was changed mentally, as one who had lapsed into second childhood. About five months after shock, she changed residence, and her physical health remained quite satisfactory until a couple of years before her death, when she moved back to her old home and soon she began to have a constant arthritis; the kidney symptoms grew worse; arteriosclerosis became evident at the wrist; evidence of sclerosis of the brain and cord appeared; and at the end she had lapsed into a condition much resembling locomotor ataxia. A careful investigation of this case shows that she had been using lead conducted water for years before the attack of hemiplegia. I never had the water analyzed, but in view of general pollution of water with lead in our region when conducted through lead pipes, and taking her symptoms into consideration, I strongly suspect that the basis of her troubles was lead poisoning. At all events,I feel quite sure that true cases of apoplexy with complete and permanent restoration of motor functions after only four months are uncommon.

I should feel that I am neglecting an important aspect of this subject if I failed to mention that I have been interested to investigate several cases of colic in horses that have occurred on the farms in the region about my

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home. In every instance, the water supply to the barns where these animals were kept comes through lead pipe. Accepting as correct the statement that the average horse drinks about eight gallons of water in twenty-four hours, and assuming the average weight of horses to be about 1,000 pounds and the average weight of women 125, then, everything considered, it seems that the horse takes about three times as much poison in proportion in twenty-four hours as the woman.

From what has been said above, it will be seen that the diagnosis of lead poisoning is not always an easy matter—that is, until the practitioner has his suspicion aroused. Every case must be studied by itself, constantly bearing in mind the probability that the next case may be quite unlike others that have been seen. It has long been a maxim of medical practice that, when the diagnosis is obscure the urine should be examined; but, since an analysis of the urine as ordinarily made does not include an attempt to ascertain the presence of lead, I would suggest that in all cases where the diagnosis is obscure and where it is shown that the patient's drinking water comes through lead pipe, the drinking water as well as the urine should be examined for lead.

Since the time of De Mussey's writing, the fact of lead poisoning from drinking water has been exhaustively investigated, conclusively proved, frequently discussed, and emphasized in medical text-books and journals, and at meetings of medical men; but while the state has displayed commendable zeal and the laity has become deeply interested in combating the spread of infectious and contagious diseases, it is a deplorable fact that neither the state nor the laity has become sufficiently aroused to the menace of this insidious poison which every year is undermining the health and consequently thousands of our citizens and the domestic animals which they own.

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In this era of conservation of resources, preventive medicine seems destined to play a prominent part, and when one stops to consider that anything which impairs the health or shortens the life of a people or their domestic animals not only burdens them with suffering and lessens their earning capacity, but also tends to dissipate their savings, it will be seen that this matter of lead poisoning in rural communities assumes an economic aspect of high importance.

In view of these facts, I urge the united action of the medical profession and of all enlightened citizens, to whom at some time comes the desire to be public benefactors, for the removal of this menace to the health and welfare of our people.

DISCUSSION

W. E. LAWRENCE, M. D., North Haverhill.

It occurred to me while Dr. Weaver was reading the paper that the only thing I could think of, and I hardly feel competent to discuss it from that point, is the standpoint of the chemist. There are certain things in drinking water which will dissolve lead. The fact is that the nitrates do have a solvent action on lead in water. My experience has been different from Dr. Weaver and is limited to what would naturally occur to any common every day doctor, and those cases have been alcoholic. Some people might be able to carry lead through their system and seem to produce no symptoms. The paper is limited to the lead poisoning produced by drinking water. I want to call your attention to an excellent article in the Journal A. M. A. of April 29 by Dr. Hammond of Illinois in which the subject of lead poisoning was taken up. It is a very interesting article, indeed.

CLOSED BY DR. WEAVER.

I have at present in mind another case of lead poison-

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ing that is very interesting. I received a report on it only the day before yesterday from the state laboratory in regard to the amount of lead, and I am satisfied that the conditions under which the water was collected probably did not give the full amount of lead that the patient was drinking in the water, because they had pumped out three gallons before they began to collect the water. Probably the water sent to the laboratory did not contain as much lead as was standing in the pipes which they used very often. The point is I have a patient with hemiplegia. This patient is making very rapid recovery, and I am hopeful she is going to have a complete restoration of the motor functions. She is a woman who has been using water for about twenty-five years from a supply from which another family now obtain their water. This second family is made up of a husband, wife and two children. The wife and older child have shown to me pretty definite symptoms of lead poisoning. The child has evidences of cyclic vomiting, some uremic symptoms. The mother was pregnant, went full term and gave birth to a living child. Since then she had an attack of uremia a few days after confinement. She has been very anæmic. This case is one of hemiplegia; another of fibrous kidneys and cyclic vomiting all came from the same water supply and two different families were involved. There is one further point in connection with this that I have never had explained. I analyzed the urine of this young woman who gave birth to the child. She was at that time passing a scanty amount of urine. There was no albumin or sugar. The urine was slightly alkaline; specific gravity 1030, and I am puzzled for an explanation of the specific gravity. There was no sugar in the urine, no albumin, and I am wondering whether the lead was sufficient to send up the specific gravity.

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MEDICAL INSPECTION OF SCHOOLS

ZATAE L. STRAW, M. D., Manchester.

I deem it a high privilege and honor to be given this opportunity to consider, however briefly and inadequately, a question of such vital importance to the public in general, and of such especial interest to that profession which has ever been ready to lead the army of human progress to greater heights of achievement, security and happiness, often enough over a road rough with personal surrender and sacrifice.

For I say it without fear of contradiction or denial, the medical profession is the ultimate tribunal which must decide most of the vexed questions which affect the welfare of the majority. This may sound like a broad statement to the laity, but in this presence I need not prove it.

It happens, therefore, that after other agencies have essayed the task—and by these agencies I mean charitable, religious and political bodies—and failed, the doctor points out the weak spot, supplies the possible remedy, and thus becomes the final authority. And justly so, for medical science, of which he is the exponent, is the treasury which holds the wealth of research, the golden grains of research, the golden grains of truth, garnered through the ages, which alone can emancipate the earth from the thraldom of physical vice, sin and suffering, and so raise its title to true philanthropy.

And now, as perhaps never before, are we on the threshold of a new and better era. Now as never before has it entered into our province to teach the way to the secret of obtaining that purity and majesty of the body

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which is its right by divine inheritance. Into this province a little child has led us and the world smiles approval, while we seek to strengthen it for the burdens and duties of its future life.

For this is the era of the child—the day of common things—the time of clearer vision for the near-by and plainer truths, while for a time we give up the search for those which are hidden. The Welfare of the Child—This is the shibboleth which is firing the enthusiasm of thousands of the truest and best of the world's benefactors to-day, and to the promotion of which much of the vast machinery controlled by humanitarian and sociological organizations is directed.

In this movement, we ought to have a share, as a profession, as a State. As a profession, because one of the most important departments, that of Medical Inspection of Schools, is directly connected with it. As a State, because it depends largely for success upon wise legislation, and it is a new thing when our State becomes a laggard in beneficent and uplifting projects. For myself, I am peculiarly and enthusiastically interested, and shall indeed be grateful if, by any word in its favor, I can create or stimulate in any of you a like insistent interest, which will not rest nor be satisfied until a sound, compulsory Medical Inspection Law is indelibly inscribed upon the Statute Books of the State of New Hampshire.

Of all the great problems in medicine, none exceeds in importance those embodied in what from convenience we call "Preventive Medicine." These problems touch upon sanitary and hygienic science with their cognate agencies—the supervision of the individual in his immediate environment,—the control and direction of infant life,—and, to some extent, the safe-guarding of the community at large. From consideration of these notably

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difficult problems, separately or in combination, has arisen the movement, revolutionary in its scope, which seeks to repair the negligence of the past, by the better methods and better knowledge of the present.

Out of this endeavor has grown a new specialization, viz.: the system of Medical Inspection of Schools, which assumes the care and supervision of the child during the tedious and critical process of education.

We have come to know that in order to attain to anything approaching the ideal in educational lines, we must have a dual interest in the child—that it is futile, even criminal to stimulate the mental without thought for, or even at the expense of, the physical. That the physical health and energy must be conserved and nourished and developed equally with the mental, if we hope for a uniform and well-balanced result.

Basing their convictions upon these facts, thinkers in all departments of scientific and educational works began seriously to take thought how best to obtain best possible conditions physically and mentally for the youth of the present generation.

Naturally and inevitably they arrived at the conclusion that only upon the common ground of Medical Inspection of Schools, where medical science can join hands with educational science, could the desired end be attained.

The benefits of this union of the two greatest needs of the human race at once became apparent.

Parents, teachers, the general public, as well as the children, massed in the schools and, relatively, those in workshops and other fields of labor shared in the resultant activities, widened and enlarged to take in all conditions of life.

Certain changes in the constitution of society have also aided in the coalescing of these two forces.

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A century ago, we were a set of rural communities, the urban population at that time constituting 3.3 per cent of the total population. Now we are an urban nation—35 per cent live in cities, especially in the old and more advanced states.

This moving of the population toward centers has rendered essential greater attention to water supply, problems of light and air in dwellings, and public institutions, the isolation of contagious diseases, and a thousand other matters of greater or less importance—but less needed in a rural community.

I would not be understood, however, as making this statement too sweeping, as it has been found in the prosecution of Medical Inspection work that in rural schools the demand is almost equal to that of city schools.

One in three will have trouble with the eyes; nearly one in five will be mouth-breathers, because of large tonsils or adenoid growths; frequent cases of nervous trouble, chorea or even epilepsy; and also a certain number predisposed to tuberculosis.

Great changes are also taking place in our racial stock. The influx of vast numbers of immigrants, many of them coming from the lowest conditions of peasantry and serfdom, with habits of living quite different from ours, even among our poorest classes, brings with it immense responsibilities upon educators and the medical fraternity alike.

That this is an item of considerable importance may be seen by the returns of the last census, though it would probably not be true of the country at large.

Boston has a foreign parentage of.....	71.6	per cent
Chicago	77.2	" "
Cleveland	75.4	" "
Milwaukee	82.7	" "

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New York ..... 76.6 " "
San Francisco ..... 70.4 " "

No other agency except an efficient and authoritative board of control, combining the functions of the two, could safely direct these antagonistic elements.

Additional reason for effective medical supervision is found in the extension of our school system.

In former years, the schools were widely scattered, and irregularly attended, the school terms were short, and there seemed no special need of hygienic attention.

Now that legislative action compels regular attendance, and makes the term to last practically throughout the year, a different state of things has been brought about.

The commingling of children from all families and conditions for long periods largely increases the danger of contageous and filth diseases, and renders their management more difficult.

If the public schools are to continue to be schools for all the children, they must be kept morally and physically clean and safe. And just here I would call your attention to the responsibility of the State in this matter.

If the State has by enactment of laws compelling the attendance at school, provided for the education of the child, not merely for the child's sake, but as a measure of self protection, it is also bound to take cognizance of its physical welfare for the same reason. I will go further; the State is responsible not only for the sound body, so far as it can supply the needs for its development, but for the sane mind as well.

The subject is too far reaching for the limits of time assigned me here; but picture if you can the defective and discouraged child drifting into hopelessness and despair, because the State, as its legitimate guardian and protector, overlooks and neglects its needs. Says Dr.

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William H. Allen, Sec'y of the Bureau of Municipal Research, "The obligation between the State and the child is a reciprocal one, and when the State for its own protection, compels a child to go to school, it pledges itself, not to injure itself, by injuring the child." Permit me in this connection to quote from the proceedings of the British Board of Education. "Medical Inspection is founded on the close connection which exists between the physical and mental conditions of the children, and the whole process of education. It seeks to secure ultimately, for every child, normal or defective, conditions of life compatible with that full and effective development of its organic functions, its special senses and its mental powers, which constitute a true education."

The following is a summary of facts regarding this phase of the subject:

First—The School is the only governmental department that directly assumes control of children's lives.

Second—At least nine out of every ten of all American children are subject to this control.

Third—Such control is maintained for the most part during the critical years from 7 to 14.

Let us now look briefly at the actual work accomplished through this agency according to accredited and carefully tabulated results. It has been supposed by many that medical inspection is still in the experimental stage, and that America is among the first to adopt it, this is far from being the case.

With Brussells having a systematic inspection since 1874, and Paris since 1884, with scientific journals in both Germany and France devoted exclusively to this subject, and the movement a national one in France, England, Belgium, Bulgaria, Switzerland, Russia, Japan and the Argentine Republic, it is evident that save in detail, the matter is a settled one, and that America is one of the last of the civilized countries to seriously consider it.

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. However we have now gone to work, and with characteristic energy are drilling our forces and adopting methods excelling many of those older in the work.

Twelve states have taken legislative action, either compulsory or permissive. Of these the best progress has been made in the North Atlantic, and western division of states, where about 60 per cent of the cities have taken it up. It has made substantially equal progress in the two southern divisions, where the percentages are 37 and 38 (these divisions were made for the purpose of tabulating results).

The poorest showing is made by the north central division, where only 20 per cent of the cities have made medical inspection. Of 758 cities, 337 have systems of medical inspection

In 75 per cent of the cities, work is prosecuted under the Board of Education.

301 cities have inspection for the detection of contagious diseases. 167 cities have physical examinations of school children most of them not only when they first enter, but at stated periods.

In 189 cities vision and hearing tests are conducted by the doctor. In 399 cities vision and hearing tests are conducted by the teachers.

1194 school doctors are employed as permanent members of educational forces. 371 nurses are employed in 76 cities. 48 cities have school dentists.

This year, 23 American cities are supporting open air schools. No failure has yet been recorded; ½ pound per week is the average gain in weight of pupils attending open air schools, in which the pupils work less, play more, and progress faster than those in the ordinary schools.

The open air school is an outgrowth of the work for

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better medical supervision of school children, especially such as from any cause are interrupted or retarded.

The following is a partial list of concise, tabulated questions indicative of the extent and purpose of the work and is part of an exhibit of legislation and work for the physical welfare of children held in N. E. A. Headquarters.

1.—Who should be physically examined? Ans.—All children, normal students, teachers, janitors, buildings, grounds, in all school districts, public, parochial, private, rural and urban.

2.—How often? Ans.—At least once per year.

3.—How many children need treatment? Ans.—7 out of 10; 3 out of 10 for eyes, 2 out of 10 for breathing troubles, 7 out of 10 for bad teeth.

4.—What is the penalty for physical defect? Ans.—Retardation, discouragement, dropping out, annual waste of money estimated by Leonard P. Ayers at $27,000,000.

5.—Does examination lead to treatment? Ans.—Yes, in 9 out of 10 if the parents understand properly.

6.—What is the most inclusive compulsory law? Ans.—That for Indianapolis.

7.—What state has printed best instructions? Ans.—Probably Massachusetts, but Louisiana has the best sanitary code.

Children found predisposed to tuberculosis, or already infected with it, are sought out and given special care or instruction by 97 cities.

For these, out of door schools and other means for improvement are provided.

New York city will next year make over and equip twenty rooms in regular buildings for the better care of the sick and well. Three or four years ago, medical inspection meant a hurried looking over of school children to discover measles, scarlet fever, diphtheria, etc.

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Now 23 cities look more for defective vision than for transmissible diseases.

Three years ago, adenoid growths were almost unheard of by school teachers, to-day, in 171 cities adenoids, hypertrophied tonsils, and breathing defects, are seen to be a more serious menace to a healthy development and school progress, than the more easily detected contagious diseases of which people are more afraid.

With this view, Chicago's board of education has a special division of Child Study for examining children whose defects are deeper seated than those mentioned.

Both Chicago and Philadelphia have a private pathological clinic for children which takes up nervous difficulties and backwardness that may be due to either heredity troubles or deep seated defect. I might be asked, What do these activities prove as actual gain to the State or to the individual, except from the humane or charitable point of view?

Taking school records as the most exact and accessible source of information we find; Last June, an army of 250,000 boys and girls marched from the city public schools of America, proudly bearing the evidence of having completed successfully the prescribed eight years of study.

During that month and the months preceding, there dropped from the ranks another army of 250,000 children who had failed of graduation, having completed only six or more years of study.

What caused this lapse in the educational course of these prospective citizens, workers in the mart of industry in all departments, involving a tremendous loss to the State and to the individual? Approximately 16 per cent of all who drop out, do so because of ill health. Those having removable physical defects make 9 per cent slower progress through school than children who are not so handicapped.

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Take a child who is deaf, it fails and has to repeat it's grade, losing time and place, and lacking a certain esprit du corps due to this loss of rank, he gives up then, or when he reaches his fourteenth year, reasoning that he cannot hope to graduate at the usual age.

The medical inspector will detect these cases before they have failed, and by the "follow up" system, providing suitable remedial treatment and possibly more hygienic environment in the home or school will thus enable the child to continue its course, as well as invigorate its health.

It is wasteful to the State, and inhuman to the child, to curtail its opportunities for future usefulness.

Has it ever occurred to the solons at our State Capital what retardation alone costs, quite outside of the self-depreciation and hopelessness engendered by the realization of unfitness for the race of life?

The "repeaters," as given by Leonard P. Ayers, are estimated to cost $27,000,000; and this necessarily leaves out of the count, the ultimate effect upon the mentality of the child, of the moral degeneracy often ending in vice and crime, that so frequently overtakes the victim of enforced idleness or uncongenial occupation.

These are grave problems, not to be shifted out of sight because of parsimony, prejudice or ignorance.

The methods pursued where medical inspection exists vary greatly. This is necessarily the case, particularly in America, as the same law might not be equally practicable in different localities, owing to climatic, racial, industrial, legislative and other varying conditions.

In the different cities, they have various forms of blanks, weekly, monthly and term reports to be made out, giving number of pupils examined and the various defects found, the number of exclusions, and subsequent return of excluded pupils.

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Where no satisfactory evidence of vaccination is apparent, the only evidence being a distinct characteristic mark, a prompt compliance with the law is insisted upon.

A schedule of duties is usually prescribed, designating number and time of school visits, manner and amount of service and when special attention should be given. This includes the teacher's part in it and, to some extent, that of the parents, and of the general school authorities.

In most places it is the physician's duty merely to report the case to the parents, giving cause for exclusion, and suggesting consultation with their family physician, no treatment being suggested except in cases of pediculosis, when directions may be given by the inspector.

Where the case comes under the jurisdiction of the health authorities, the inspector's responsibility ends with the proper notification of the Board of Health.

There are two standard types of administration, that under the Board of Health and that under the Board of Education.

In the beginning of the work, practically all the systems were administered by local boards of health, but now only about one-fourth of the cities are under the health authorities, while in the remaining three-quarters the Board of Education is the controlling body.

In most places, the tests for defective hearing and seeing are conducted by the school physician, but in others the teachers themselves do the work—a practice which works injustice both ways. It adds to the teacher's already over-burdensome responsibilities, and it may result in injury to the child, since tests, to be of any real value, require technical skill.

In many of the larger cities, school nurses are employed to supplement the work of the physician, and

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has been found a most excellent expedient. The qualified nurse is sometimes required to visit the homes of the pupils and inspect the surroundings and, if found unhygienic, or in any way menacing, to the child, report to the proper authorities.

Dr. Thomas F. Harrington, of the Department of Hygiene of Boston says: "It does not seem possible to conceive a more satisfactory arrangement nor a more effective piece of school machinery than nurses under school supervision."

Certainly this work cannot be thoroughly or satisfactorily done without a department.

The simplest and best method of systematizing the work satisfactorily is by the card index. Special cards can be used, upon the one side the pupil's name, age, address, etc., and on the reverse side spaces properly arranged to be filled in at the time of the physical examination.

In this way, we have the physical history of each child, readily available, and subsequent examinations greatly simplified. Also, in case of a pupil's removal to another school district, this card would be of great assistance to the inspector there in charge.

The qualifications which the work of medical inspection demand are,—

1.—Skill in diagnosis, many cases being obscure in the initial stage. And there may be a suppression of facts concerning the child on the part of the parents, or the child itself may seek to hide its real condition.

The best medical inspector is he who can penetrate the real or imaginary difficulties, and so do his required work.

2.—In no other field of practice is so much general pathological knowledge required.

Even if he had only to deal with contagious diseases,

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his duty could only be well performed by one who had as nearly as possible mastered the knowledge of vital processes, and their application to disease.

3.—The medical inspector must have a broad and practical knowledge of hygiene.

He must have special and technical knowledge with regard to heating and lighting and ventilation—the proper construction of methods of drainage, of disinfectants, of the powers of endurance in the child, length of time of safe confinement for it in the school-room. That a law providing for the medical inspection of schools is not only a wise and much needed one, but an absolutely necessary one, in order to preperly fulfill the obligation of the State to the parent and the still greater obligation of the state to the child,—in order to properly protect the individual, and the community at large, by controlling and stamping out epidemics of contagious diseases, the very hotbeds of these being in the schools, in order to properly conserve and develop to the highest perfection the energies and talents of our young people, upon which the vigor and integrity of our nation must depend, I hope I have helped to make apparent.

DISCUSSION

CLARENCE O. COBURN, M. D., Manchester.

I think the doctor has covered the ground pretty thoroughly. We started in last fall and were supposed to to examine every child in each district. An inspector was assigned to each different district. In the first first inspection, the most important thing was the vaccination which had been a state law for a number of years, and we were to see that it was enforced. We found that pupils had been going to school, and had reached the high school, who had never been vaccinated. It would

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surprise everybody to know the means that some parents would take to get out of having their children vaccinated. They would go to their doctor and have him sign a certificate that the child was in ill health, showing scars or bruises. We made the rule that no child should pass the vaccination test until we saw a typical vaccination scar. My per centage was about one third not vaccinated. I had about 1,400 pupils, and when we got through we had most every one vaccinated. Some had been vaccinated four or five times if it had not taken the first time. There have been a few cases of smallpox in Manchester, and that stirred them up.

The number of decayed teeth in younger children is remarkable. Eighty per cent have decayed teeth. We have no means of making them get their teeth fixed. If we had a free dental clinic, it would clean up a lot of the teeth of the children. Pupils have been going to school who never knew they were blind. Several I discovered were blind in one eye. They have not the money to buy glasses. Some cases we turned over to the overseer of the poor, and the doctors have examined them for nothing, just paying for the actual expense of the glasses. Another thing that exists in certain localities in schools is pediculosis. Yesterday morning I went to a school and found over forty cases. I have had their heads combed. We need some one to go in to the poorer quarters and tell the parents how to take care of the head of the children and how dangerous it is to their children just as much as to anybody else. The same way with the itch and the ring worm; and those diseases are quite common. Another thing I have done is to keep a card system of each pupil, and every week we examine them. I do not bother with those who have nothing the matter, but the others I try to keep after all the time, and to have their adenoids removed. They

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get rid of the lice in their heads and all of these other things. We were handicapped a little bit by not having an inspection down there for two or three months, and during that time about one-third of the pupils were out with the whooping-cough, chicken pox, and other minor things. One school had one or two cases and, if the teacher had known enough to discover them, there would not have been such an epidemic in those schools. I think anybody who has witnessed the work will appreciate the value of it.

D. M. CURRIER, M. D., Newport.

I have been much interested in this paper. It is a paper of vital importance to the children of our land, and we all know and realize that the more sturdy, hardy and healthy children we can develop into sturdy manhood we knew nothing about them. We had no instruction before us this afternoon some things that are important. There are some things which have been only lightly spoken of, little referred to in the paper, and you will pardon me if I speak plainly this afternoon, because I feel it impressed upon me to do so. You know and I know that when we get along to a certain age, we became interested in certain functions of our body, and we knew nothing about them. We had no instruction from our parents; we had no instruction from our teacher; but boys got together and instructed each other in certain functions of their body in a vulgar, low, mean way, that lowered the morality of that child. Now, it is important that every child, both boy and girl, should know something about these functions when they get along to a certain age. Now, which is best for them to receive it from, their low minded confederates who are older than they and have had a little more experience? Or would it be a better way to have certain instructions

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given to them by their teacher, by their parents, if they will do it, or if they are not so constituted that they can do it or will do it, and the teacher cannot do it, then have some physician that understands and knows how to do those things, impart that knowledge to them. There is a great field there for these lady physicians to teach the girls of our common schools in regard to themselves, and the boys should be taught by some competent physician. You can start by showing them and by calling their attention to how the flower comes into existence, how the lower animals come into existence and the higher animals, and then you can tell them how the human being comes into life and all that sort of thing; and inform them of the diseases which may occur if they do not properly conduct themselves. That leads me right into the same subject that we had this forenoon, teaching these boys and girls the danger of infection of venereal diseases, and you will do away to a very great extent with these cases we had discussed this forenoon. To have knowledge is a great safeguard. Ignorance as to these things is exceedingly dangerous. I feel interested along these lines, and I think that we, as a state and as a community, have in a great nation neglected our boys and our girls right along that line. Give them knowledge. Give it to them in a proper way, in a way that will elevate their minds, that will make them more moral, that will lift them up, not in a way that will push them down, degrade them and make them lower in others' esteem. Not at all; lift them up, make pure beings of them, so that they will be a credit to the State, a blessing to the State, an honor to our State. That is what we ought to do with our children, both boys and girls.

ISAIAH G. ANTHOINE, M. D., Nashua.

These matters have been talked about for years. I

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remember, quite a good many years ago, a subject similar to this and along this line was brought up but nothing has ever been done. Now, why not do something about it? We all know, or those who are present here know, about these needs. Why not have a committee appointed to appear before the legislature? Have this paper read before a committee of the legislature and have something done. Talking about it in these medical meetings will not accomplish anything. There has got to be a move made.

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RATIONAL MEDICAL TREATMENT

E. A. LANDMAN, M. D., Plaistow.

PART I

General Consideration

A quarter of a century ago, a certain professor of Theory and Practice, in one of our medical colleges, was in the habit of saying each year to his senior medical students, "Gentlemen, you make the diagnosis and any old woman can tell you how to treat the disease."

I did not hear the professor make this statement, but it was often quoted to me by my preceptor and since I have had occasion to recall it many times in the last ten years I have made it a sort of introduction to this paper.

To the senior medical student, about to enter upon his life work, with five or six hundred pages of materia medica and therapeutics fresh in his mind; with enthusiasm and unshaken confidence in the strength and usefulness of his armamentarium, such a statement as that would seem little more than a jest; but to the man who has tried for several years to make a practical application of what he once learned of materia medica and therapeutics, the statement is full of meaning.

If the professor meant what he said, and I imagine he did, he summed up in one short, terse sentence his estimate of the relative importance of diagnosis and treatment and his estimate of applied therapeutics in general. To assert that all that was of any value in the way of medical treatment was known by any old woman would be to us to place a rather low estimate on the ability of the profession along lines of treatment, even at that time. Nevertheless, the statment was made by a man

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who had grown old in the teaching and practice of medicine. It was made by a man who held an important position by virtue of his many attainments, but who, doubtless, in his many disappointments and failures, in his inability to control certain pathological conditions by any known means at his command, had recognized the very narrow limitations of the scientific application of all methods of treatment, and he was ready to teach his graduating classes that they would achieve greatness by diagnosis rather than by treatment.

That, however, was twenty-five years ago. To-day, so far as treatment is concerned, the importance of the old woman is passing away. Still, in the country places, she has not entirely disappeared from the field of competition, as it is no uncommon thing to find our treatment laid aside for the advised treatment of some neighbor's mother or grandmother, and are we willing to say that it has always been a disadvantage to the patient? Such things for the time must needs be, but they are not complimentary to a man's best endeavor.

To-day, while we take pleasure in the thought that we are emerging from a long period of darkness and error, of superstition and empiricism in medicine, and while we take pleasure in the wonderfully advanced mehods of treatment and the more satisfactory results along certain lines, yet as a whole the drift of our thought and action as we grow older is inevitably toward the position of the cynical professor, and our tendency is to return to the simpler therapeutic methods and to the few reliable drugs that have stood the test of time and in a measure seem rational to the scientific and analytical mind. In other words the tendency ot the modern scientific and critical mind is to accept that only which can be proven and to discard that which is doubtful. We are having almost daily the universal experience of meeting with

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pathological states over which we have practically no control no matter what methods or treatment we may adopt. The majority of diseased conditions have as yet no known specific remedy, and we are often compelled to admit to ourselves, if to no one else, that in certain cases we have not been able either to vary the progress of the disease toward recovery or to stay the approach of death, as the case may be. We have tried and believed then disbelieved and tried again until we no longer believe in the clinical evidence of the enthusiastic few. As we grow older, we become less and less disturbed by the "New Discovery," unless it seems rational and in accord with known scientific facts.

In the majority of diseases we are called upon to treat there is no universal method of treatment. The eastern physician would find difficulty in writing the prescriptions of his brothers in the West. The New England physician would laugh at what he considered the irrational methods of his southern corfreres; but we do not need to go to the extremes of distance to find differences in methods of treatment or in the variety of drugs used. A druggist's stock in some of the smaller towns in Maine show an altogether different line of pharmaceutical products from that of one in similar New Hampshire towns. I do not refer to different combinations of drugs only, but to different drugs. Only the other day, I saw a list of drugs used in a Savannah hospital and, so far as my knowledge goes, out of the thirty mentioned on the list, only five or six are ever used in this section. Furthermore, it would be difficult to find two men who treated the same disease exactly alike. One condemns what in the hands of another has proven a specific. In the same medical periodical, two men of national reputation prove conclusively two distinctly opposite results, and yet diseases vary but little in different localities and in different

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sections of the country. One man prescribes an infinitely small dose; another an almost dangerously large one. Others fill in the gap between the two extremes; but did you ever think that the methods of one were so much superior to those of another or the doses of one man, or the kinds of drugs he used, was the basis on which he builds a large practice? I never could think that there was any great difference in results among physicians of average intelligence and judgment. Could you? Is it possible that there are a multitude of drugs and therapeutic agents of equal value for the same pathological condition; or, can it be that a large part of our treatment is immaterial and that we are all more or less dupes of our former education and illogical reasoning and, like the victims of D. T., see things when they are not there? It is doubtless true, as we are often told, that dear old Nature, sometimes molested, sometimes assisted, by our best endeavors, goes on to effect the cure, while we congratulate ourselves on the good results that we have obtained, no matter how obtained. Or it may be that, as we grow older and wiser, we do not congratulate ourselves, but are simply content with good results, however indefinite the expectations. It may be said that such statements better apply to an age that is past. They do better apply, but is it not also a large part of the age that is passing? Is it not time that we who are practicing medicine in the dawn of a new era of real scientific and rational therapeutics should re-examine our methods and subject them to the tests of approved modern investigations.?

In general, no physician is so well satisfied with his methods in any particular case that he is unwilling to try something else, but he would be if his treatment was definite and not so much empirical. When the drug men, representing the pharmaceutical houses, call on us

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in our country homes and tell us that Drs. A., B. and C. are using large quantities of some preparation, that is quite sufficient for us, and we are ready to use that preparation also. Rational? No; but true.

One pharmaceutical house advertises no less than fifteen new preparations. Some one pays for those advertisements. Is it too much to say that the average physician is more susceptible in his attitude toward the products of the pharmaceutical houses than the intelligent layman is toward patent medicines? Or does he prescribe them for some good reason?

Why should a man prescribe a remedy under a trade name for which his poor patient has to pay one dollar, when the same thing could be had for fifteen or twenty cents under its real name? Does he agree with his patient that perhaps he is a greater physician on that account? Does he think that those preparations are actually better than the drugs of which they are composed? It may be that one-half of 1 per cent of these newer preparations are of more value than anything we previously used, but how about the other 99½ per cent? But the object of this paper is not so much to criticize, in the ordinary sense of the term, as it is to call attention to the fact that we are, in a large measure, still practicing medicine on stilts. We are spending too much thought and too much time and energy in attempting to maintain our balance in the profession, and in keeping our poise before the public. Competition is a word that ought never to be in the vocabulary of the medical man, but competition does more to make a man's treatment irrational than anything else. Realizing how easy it is to fall into the habit of attempting to "do" the other man who attempts "to do" you, and knowing, as I do, that many of our patients are almost dying to be deceived, I am free to confess that, under the

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circumstances, I have a good deal of admiration for the practitioner of medicine who is able to skillfully manipulate the truth, when there is a great demand for it; but such manipulation ought not to be among the essentials of the life of a physician. Somehow, the old adage that he ought to have a good memory doesn't seem to have much weight, since it pleases his patients.

I have a good deal of respect for the man who, in incurable cases, depends upon old and shop-worn excuses for the failure of his treatment, when he really never expected any results; and sometimes I almost envy the man who is able to convince himself that he has in some drug a specific and who constantly assumes to his patient that he has the utmost faith in what he prescribes. These optomists are never distressed when the pharmacologists prove conclusively that their favorite specifics are positively inert, and leave the body unchanged; neither are they distressed when they learn that their pet therapeutic measure is positively harmful. Perhaps by the time one is proven useless they have taken up another, and so they go on trying almost everything upon the market and recommending it highly, which is a great satisfaction to the patient. But I always thought that the ability of a man to practice medicine in that way was congenital and not acquired.

On the other hand, I will not say that I admire the method of a man who makes a diagnosis at the first visit as a mark of superior wisdom and then changes it from day to day, as the case progresses. Although I could not draw the dividing line, I do not admire the man who considers the practice of medicine a bluff, and proceeds to exemplify his consideration by constantly pretending to do what he knows he cannot do. He is the man to whom the incurables are always coming too late. He is the man, who if he had been half an hour later the

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patient would have died. Yes, he is the man who "breaks up" pneumonia, typhoid fever and other grave diseases, provided always that he is called sufficiently early. And once it was his habit to turn the other man's medicine down the sink spout, to the great delight of the patient's friends.

I have a good deal of admiration and respect for the honest man (is that a paradox?) who practices medicine in such a great variety of ways that are irrational and unscientific; provided, always, that he understands and does not deceive himself. But I am sure that it is a matter of great satisfaction to us all that the almost infinite variety of conditions that seem to make it necessary for the medical man to maintain a false standard, created in the days of ignorance and greater prejudice is slowly passing away.

Some little time ago, I was told that a certain woman had lost her only son. She had consulted many physicians in the hope of saving her boy. A week before the boy died, she consulted Dr. X. Dr. X. said, "Too bad! If I could have seen him a month ago, I could have saved him." The woman went away in tears, and she is still mourning that she didn't consult Dr. X. before. Dr. X. may be more of a business physician for using such methods, but in my opinion he is much less a man. Dr. X. knew better, but Dr. X. would rather the poor mother suffer indefinite remorse than to admit that he (Dr. X.) could not cure her son. Dr. X. is not a competitor of mine.

I haven't much confidence in the general practitioner who will do major surgery when the services of a skillful surgeon are available. I would not care to have him treat me. It may be right and perhaps rational treatment that in our large hospitals where are congregated the great masses of stricken humanity of the least desirable classes, that they should be the first after animal

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experimentation to receive the test of some new discovery; but even there it should be done under the direction of some conscientious men who value the sacredness of human life even in the lowest state.

To be sure, this is an age of revolution along all lines and especially in medicine. It is the age of specialties and the division of specialties. The science of medicine is unsettled. The keenest intellects in the profession in all parts of the world are at work on the fundamental principles of life and its normal and pathelogical manifestations: embryology, biological chemistry, physiology, bacteriology, pathology, etc., all contributing to the the newer ideas in medicine. Important discoveries are constantly being made, which may change the whole future treatment of disease; but they must be proven of value on experiment and by clinical demonstration for a long time before they can be accepted as valuable by the general practitioner. There is no mind comprehensive enough to grasp all that is written and to decide what is good and what is injurious. I cannot help thinking that the physician who clings to the old until the new is established is the most rational in his treatment, although the old may be unsatisfactory. In clinging to the old, it is not necessary that he should be ignorant of the fact that he is clinging to much of the mimicry of the dying past, nor need he be ashamed as yet to be holding sacred the traditions of his fathers, since out of the old and from the traditions most that is injurious has been discarded, which cannot be said of the newer and more modern methods of treatment. We have recently proven that the ancient seton as used by our grandfathers was, doubtless, in many cases a rational procedure. In my school days they laughed at the man who felt better after a few lively boils; and they thought the man a fool who was better after typhoid

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fever. What they saw through a glass darkly we now see face to face.

PART II

Rational Medical Treatment—More in Particular

When we consider the heights to which some of the peoples of the past attained in culture and literature; in the arts and some of the sciences, we wonder that in medicine it should be left for the men and the closing years of the last century to discover the principles of rational therapy. When Darwin and his associates formulated the law of "Survival of the Fittest," it was known that every form of life in a state of nature had its enemies, and that the continued existence of each form depended upon its ability or fitness to withstand the attacks of such enemies as were common to its environment; but it was not known, except in a very hazy sort of way, until the discovery of the bacterial origin of disease that the worst enemies of the higher forms of life, and especially man, were the invisible hosts that might dwell within his body. When the discovery was made that a large percentage of all pathological states are due either directly or indirectly to the presence of some form of micro-organism, and when it was decided that no two forms produced the same result, the treatment of all such conditions became of vastly more importance. But it was known long before the discovery of the effects of pathogenic bacteria that nature in a great majority of cases was able to cure the infectious condition unaided; but so long as the etiology remained a mystery and nature's method of treatment unknown, assisting nature was little better than a mere guess, as we might demonstrate by the many useless and discarded methods of the past.

When Klebs and Loeffler, in 1883 and 1884, demonstrated beyond a doubt that the Bacillus diphtheriæor,

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the bacillus that bears their names, was the cause of diphtheria and when, ten years later, Behring discovered nature's method of self-limitation and was able through the medium of the horse's serum to elaborate nature's antitoxin, there was given to the profession a most satisfactory, rational and scientific method of treatment. And it still remains to-day the most satisfactory treatment of any of the infectious conditions. I cannot refrain from saying again, "How very satisfactory it is!" Some night you are weary with the cares of an unusually hard day. Perhaps you are worried over a case of pneumonia—some one who is desperately sick and whom the community can ill afford to lose. Perhaps you may have other cases on your mind, where the condition is obscure and life depends upon your judgment. you are called to see an only child, the idol of the house. You find the child has diphtheria. It may be that the mother is almost frantic with fear because she might have lost two or three brothers or sisters years ago. You are able to smile and say with great confidence and truthfully, "There is really no need for worry. Your child will be much better tomorrow or the day following." You administer the treatment. There is only one, and that is universal. You leave something soothing for the child's throat, and you go home to forget. There is no wondering whether you will have to call council in the morning to satisfy the family. There is no speculating as to whether it is better to use A, B or C's treatment, and there is practically no question about getting results from what you do use.

In epidemic cerebrospinal meningitis, the serum treatment bids fair to be as effective for that form of meningitis as diphtheria antitoxin is for diphtheria; but it is probable that the mortality will always be greater because of the more serious nature and usually more

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rapid course. All other methods in time past have given little more than relief.

So-called antitoxin sera contain antibodies developed outside of the body that is to receive them, and when introduced neutralize the toxins of the corresponding bacteria. These antitoxins make no demand on the tissues of the body that is to receive them, and, as the name would indicate, are for conditions of toxemia, that is, conditions in which the toxins of the bacteria are responsible for the pathological changes. There are other conditions in which the bacteria themselves are found in the tissues and fluids of the body, and are directly responsible for the diseased state. Antitoxins have also been used in these cases, but with unsatisfactory results. There is another method of treating bacteremic infections, which does not seem theoretically, at least, to be any more rational than our present methods, but which at the present time is receiving a good deal of attention. I refer to the bacterial vaccines. These vaccines are substances introduced into the body for the purpose of stimulating its defensive forces to act more strongly, that is, to manufacture more opposing forces. Theoretically, for acute infections, not much could be expected from such treatment and, so far as I have known, it has never proven so clinically. It is evident that it cannot be satisfactory in the most serious infections where we most desire it, since, if the condition is serious and the vaccines depend for their action on the stimulation of an already over-stimulated and exhausted body, or when the bacteremia is great and the defensive forces of the body overwhelmed, it would be the height of folly to introduce more poison of the same kind. If we consider pneumonia, for instance, in which a good deal of experimenting has been done with the vaccines, we find that in the young and those of middle life, the natural reac-

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tion is good with a temperature of 103 or 104, and from our experience that is about all the body can tolerate, or about all that is to be desired. If the disease begins with a low temperature, in a purely pneumoccocus infection, it means that the system is overwhelmed with poison and cannot react sufficiently, hence it would be decidedly irrational to introduce more poison of the same nature. In the aged and infirm, the same reason holds good. Like the Mohammedans, when they were discussing the propriety of burning the great Alexandrian Library reasoned, "If the books agree with the Koran, they are useless. If they do not agree, they ought to be destroyed," and they destroyed them. So it is with the vaccines in the acute infections, where we need them most they are useless, and where they are useful we do not need them. Undoubtedly, a great deal of harm has been done in the last two years by the general use of the vaccines. It was so with spinal anesthesia, and it will always be so when dangerous agents are given to the general profession for trial. In local conditions, such as abscesses, boils, gonnorrhœal and other joint infections where there is not enough poison circulating in the system to produce an active reaction, the vaccines may be found to be of some benefit; but there is little difference in their action in these cases and the effect of vaccination for protection or immunity, the value of which cannot be over-estimated in the future of medicine. That man is unfortunate who considers himself ignorant or trailing in the wake of the profession, simply because he has had no practical experience in the use of vaccines, and can discuss them only theoretically with his neighbor.

We have always to remember that there are few drugs in medicine that act as specifics, and we have added only a very few to the list in the last twenty-five years.

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Quinine in malaria; the salicylates in rheumatism; mercury and the iodides and perhaps salvarsan in syphilis, and a few others yet doubtful, include about all that can be so considered.

In the present state of our knowledge, the larger part of our treatment is palliative and suggestive and should be so understood by the individual practitioner, and it is hardly worth while for a man to get hysterical over the reports in the medical journals to the contrary.

It is evident that when all the problems of bacterial invasion have been solved and nature has been forced to give up the secrets of her methods, then we shall be treating all infectious diseases as satisfactorily as we now treat diphtheria. When we have penetrated the mysteries of the pathology of metabolism, we shall then be able to treat intelligently those many conditions that come under the head of rheumatism. When we understand more fully the functional and organic neuroses and how they control the manifestations of life, then the practice of medicine will be carried on with scientific accuracy.

If any of us are fortunate enough to live to see those days, I doubt if we shall continue to use that little dyspeptic tablet of ours, containing bismuth, pancreatin pepsin and ginger. Even now, just why we should expect to get a mechanical or antiseptic effect with two grains of bismuth, or why we should think the stomach needed more pepsin when it is almost always present in sufficient quantities, or why we should expect pancreatin to pass unchanged through an acid medium, or why we should expect any effect from one grain of ginger is hard to explain, but undoubtedly it is a good placebo. That minim of cactus grandiflora and one-half grain of reduced iron somehow look good to us in our heart tablets, but neither ever had any effect on the heart as given.

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How can a man believe that glycerinated mud paste is able to hypnotize the pneumococcus in a solidified lung? If he doesn't believe it why does he perpetuate the fad of prescribing it? Why should a man continually distress his patients by overdosing them for the psychical effect on the family? Why should we continue to turn gallons of bitters into a nonoffending stomach to quiet the raging of a gall stone or to lull to sleep a disintegrating appendix? We know that if every appendix was removed as soon as it began to offend, and every gall stone taken out as soon as it produced symptoms, the mortality from these conditions would be practically nil. How, then, if life is considered of any value, can a man consider himself rational in attempting to palliate these cases, unless it be that they are past operation?

How can a man who condemns quackery outside the profession consistently treat almost all known conditions with electricity simply because it is popular and just what the patient wants? Is it any credit to the regular physician to have his offices filled with men and women who are more often found treating with the advertiser?

Christian Science, Osteopathy, and others, have done much in the last ten years to destroy confidence in things that never were worthy of confidence.

The tuberculous subject now knows that what he needs is fresh air and rest, with plenty of good food, and not half a dozen cough medicines with which to regale himself. The same view ought to be taken of many other conditions, and will be as soon as the profession will allow it.

Let us hope that the future expectations of the scientific investigator may be realized, and that universal education will teach our patients the limitations as well as the benefits of rational medicine.

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Then will the general practitioner's hope of paradise increase as he becomes wiser and wiser, and less and less the imitator of the historical Annanias.

And let us not forget that the highest ideals of a noble profession demand a continual sacrifice of one's self for the good of humanity and the common brotherhood.

DISCUSSION

HENRY L. SWEENEY, M. D., Kingston.

There are some things about that with which I do not exactly agree. I will admit what he said about the old professor twenty-five years ago, and longer ago than that, but I will say this, that I have gained more faith in the use of drugs where needed, intelligently chosen, rationally given and pushed to effect. Nature undoubtedly will do a great deal, but drugs complete the job a great many times. I believe it is possible to accomplish results by the intelligent use of drugs. It is only one part of our treatment. We should use every method which is for the best good of the patient. I believe we help nature; we prevent disease. He speaks of breaking up these acute diseases. Perhaps we cannot break up the disease after it has become settled, but the beginning of all is the disturbing function, and I believe from my own experience that in many cases you can bring the patient back to health in that early stage without having the acute diseases. At any rate, time after time I have seen patients with all the symptoms of some acute disease coming on and, by proper treatment thoroughly pushed to its effect, brought the matters back to normal within forty-eight to fifty-six hours. He says that we should accept only what is proved. Somebody has got to try. I think with a great many men there is a tendency to follow others altogether too blindly, and to use somebody else's brains instead of using their own. I think that covers all I have to say.

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JOHN W. PARSONS, M. D., Portsmouth.

The subject, Rational Medical Treatment, can be discussed in a few words or the discussion can be extended into voluminous pages. I shall choose the former method for my own convenience and the felicity of my hearers.

If the Professor who said, "Gentlemen you make the diagnosis and any old woman can tell you how to treat the disease" did believe what he said as Dr. Landman imagines he did, the old women of the Professor's day must have been his peers and more learned than those of my time and the Professor had no business to be teaching the Theory and Practice of medicine. If his saying was a witticism, he should have followed it with an apology to himself and his contemporaries. Rational medical treatment is the use of reasonable judicious treatment based on theory or facts which he possesses, although meagre, concerning disease and its management . If a reliable physician thinks he has had good results from the use of this or that drug in a disease, it is perfectly rational for us to try that remedy although no positive or scientific explanation can be given for the action of that remedy.

As Dr. Landman says, we are slowly getting out of the obscurity of the past, for some astounding work has been done in the direction of making medicine more of an exact science, but it is quite reasonable to suppose, and to almost assert, that time, as knowledge increases, will show that treatment which is rational now will be irrational in the future. Remedies may come, remedies may go, but the river Styx flows on forever.

The physician who uses a remedy with due thought and in accordance with existing knowledge of a disease and its treatment is making use of rational medical treatment, no matter whether that remedy was a haphazard

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discovery or worked out by the most patient scientific research. Rational medicine was practised an hundred years ago in accordance with knowledge then possessed based on experience and observation; a rational basis as enlightenment possessed dictated. We are far from knowing the unknown and with all our advanced methods of diagnosis and treatment there are eons ahead in which workers may labor, and after all, unless there is an overwhelming cataclysm in the laws of nature man will die. Personal human life will never be perpetual.

Of course a diagonsis is a most important primary step in dealing with the sick, but I cannot discover that great achievement in diagnosis is of much consequence to the patient unless like achievement in treatment can be found for the diagnosis. Persons think we have a sure remedy for all diseased conditions, and it is our duty to administer to their requirements to the best of our ability, even if we do play the part of the historical Annanias when we are assured we do good by a justifiable deception. No one knows the limitations of physicians so well as the distressed physicians themselves but we can rejoice that no one knows more about disease and its treatment than we do. A deception, a prevarication may be a rational method of obtaining the desired result when the spoken truth would be bad therapeutics and a rational treatment. Patients in their igorance demand more than we can give, and with our limitations let us deal with them with our best knowledge, good judgment, sound thought, and we shall give them rational medical treatment, whether it be by drugs, regimen, placebo, psychological or other means which conscience and self-respect dictate as best for the patient.

M. E. KEAN, M. D., Manchester.

I did not hear all the paper, but there were some comments with reference to the general practitioner, and I

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feel I would not be accused of pique if I should reply favorably to the general practitioner with reference to surgical operations. My experience as a member of the staff of one of the larger hospitals for twenty years has impressed upon me what I believe to be a fact, that requires just as much ability, as fine sense of discernment and skill in treating medically as it does surgically, and I have the highest admiration for the medical men. I think they do just as good work as surgeons. I think they are entitled to just as much praise. I haven't any doubt in my own mind that lots of times if they had just a little sand, they could do just as good work as the surgeon. I think it is a mistake to send these cases to the cities. I have had patients come to me from outside who were killed by the journey. They could not have been any more than killed by an ordinary skilful physician that attended some of the minor operations on the patients. I have traveled about among the various clinics in the country, and have seen patients sent two hundred miles for a circumcision. Many cases come over two hundred miles for similar operations. Now that is a mistake. I did not hear all the paper. There was just that one point that I thought I was justified in making a reply to, holding the position that I do.

CLOSED BY DR. LANDMAN

I do not wish to be misunderstood as thinking that there are no general practitioners capable of doing a major operation and doing it well, but I am not so sympathetic with men who are willing to do any operation that may come to them regardless of previous experience, and who, perhaps, are unfamiliar with the details of the operation.

Of course if a man has had considerable time in a hospital and has had an opportunity to assist for a year and do some major surgery himself, that constitutes him a major surgeon, although he may be a general practitioner.

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AIDS TO MODERN SURGERY

FREDERICK P. CLAGGETT, M. D., NEWPORT

The strides made in surgery the past decade have been tremendous, they are almost unprecedented. No such achievements have been made in any other line; it has gone far in advance of its sister medicine.

Nature has given us wonderful examples of perfect surgery. Take the coon for instance—I have seen the finest piece of surgery brought out on the leg of the coon. It had been caught in a trap and the leg had either been torn off or gnawed off by the animal's teeth; in due time the flesh and skin had not only healed by first intention but the hair had grown over the wound so that it would be impossible to detect the scar.

When we cut muscles or tendons they contract and leave the bone bare; we have to counteract this by the use of splints, sutures, weights and bandages but the animals have no splints, sutures, weights or bandages and yet they accomplish results that would bring credit to a Mayo and the most remarkable point to my mind is this, how the animal can earn his living and keep in good condition at the same time as I have often seen them under these conditions above referred to.

It is very rare that you find blood poison in wild animals and yet they have no sterile water or rubber gloves, but, are we so sure about this? Is not pure spring water aseptic? Is not the tongue healing? The dog licks his wounds with his tongue and usually heals them and yet we are told that there are over eighty bacteria in the mouth; is it not a mystery?

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Right here is our lesson, if we can only assist and not hinder nature we shall accomplish marvelous results. Our great aim should be to keep clean instead of becoming careless and then try to kill germs by using antiseptics. Just see what has been accomplished by animal therapy and vivisection. How many facts are proven today by the guinea pig and rabbit!

The introduction of animal experimentation into the study of cancer has been a great aid to modern surgery. From animal experimentation grew the idea of transplanting cancer from one animal to another. Peyrielle tried it in about 1780 when France was not ready for such work.

The surgeon of today must have every aid at his command if he would perfect himself and thus make his name famous. We are not content to use the splint, plaster cast or bandage alone; today, by means of the X-ray we can examine a fracture with our own eyes, make our diagnosis without causing pain in trying to get crepitus or resorting to anesthesia and thus save our patients from nausea and vomiting two or three days.

No surgeon today would think of adjusting a fracture without resorting to the X-ray. While in the post-graduate school at New York, a brother physician asked Carl Beck if a doctor would be justified, in the absence of an X-ray, to put up a certain fracture; he replied, "Young man, it would be a crime not to have one."

Since the discovery of the X-ray in 1895 by Prof. Roentgen the reduction of fractures have been made comparatively easy. First examine the fracture with the fluoroscope and if it is in good apposition apply ice bags or cold applications if the case is seen early before swelling has taken place.

If the case is not seen until late, when there is a good deal of swelling and inflammation, apply hot applications. If the bone is merely cracked, apply splints and bandages.

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What is the use of trying to get crepitus; every time we rub the fragments together we cause pain, inflammation and increase blood supply and I claim that we do our patients an injury for we can never get the fragments back in as good apposition as we found them. We have no right to resort to these antiquated methods except under forced conditions and under stress of circumstances when such helps are not accessible.

If we use a plaster cast do not put up the fracture permanently until the ninth or tenth day. Our patients are so unreasonable,—a brother physician told me not long ago how he treated a case and not being satisfied, sent him to another physician to be treated and never saw the case again; shortly he was sued for $15,000 for malpractice.

One very important point in the treatment of fractures and one which, although we know perfectly well, we are apt to grow careless and rusty about is the after treatment. Even though we have put up a fracture in a splint or plaster cast and have proven by the X-ray that we have a good union we must not think for one moment that we have achieved a successful result. The after treatment is just as important, perhaps more so; passive motion must be performed and massage must be brought into play.

Time and time again have I seen this painfully illustrated, yes, I say painfully both to the patient and also to the doctor. Just the other day a doctor brought in a patient for me to examine with the X-ray; six weeks ago the fracture was put up but the patient has had pain ever since, the bony union was good and not much deformity as far as the fracture was concerned, but the result was horrible. The after treatment was neglected, passive motion was shy; the fingers were extended but could not be flexed, motion at the wrist joint was very limited; the tendons and muscles had been allowed to remain so long in one position that they had become fixed.

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After having adjusted a fracture, applied the splints and bandages, I then look at the fracture by means of the fluoroscope. If the patient leaves my office with the fracture in perfect apposition and comes back four weeks later with a crooked limb and a tale of woe he has only himself to blame. Here is our great satisfaction that the X-ray is a great aid against malpractice suits.

What would we do without this wonderful aid to diagnosis and let me say if we would always insist upon a consultation and examination with the X-ray we would not have so many malpractice suits, and, judging from the recent outcome of such suits in New Hampshire, we cannot afford to be without every aid we can summon in our profession.

Living in a manufacturing town there are a good many accidents, employes are constantly driving needles and nails into their hands. One can always find the foreign body and successfully remove it by means of the X-ray; even the smallest piece of steel or metal can be located.

I was able to remove one end of a cambric needle, one-sixteenth of an inch in length, from the finger of a lady where it had been lodged for two months. Without this aid I defy the most skilled surgeon in the land to remove foreign bodies without making several cuts and injuring the integrity of the parts.

Stone in the bladder can be very successfully located. Lewis cites a case where three stones were located within the bladder.

Another shadow by proof of the cystoscope, stylette, catheter and X-ray was clearly shown to be no ureteral calculus but probably only a phlebolith or calcified gland, nothing of import.

Foreign bodies can be located in the larynx; a coin was accidentally swallowed and stuck in the throat; it was located by means of the X-ray and removed. Pleurisy with effusion can be diagnosed by the X-ray. In pleurisy

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with effusion the outline of the diaphragm as seen by the fluoroscrope is less defined or obliterated altogether according to the amount of fluid present.

The lung is also denser, being compressed by fluid if there is much effusion; there is a very marked displacement of the heart when there is any considerable amount of fluid present. Displacement is greater when on the left side than when it is on the right side. A downward displacement of the liver may, of course, take place with large effusion but X-ray examination would not be necessary to detect that. When fluid partially fills the pleural sac but does not extend to the upper part of the chest we may still expect to find the apex of the lung on the diseased side somewhat darker than that on the normal side owing to the fact that the first lung is compressed and thus is a little denser than the lung on the well side.

A differential diagnosis between empyema and pleurisy with effusion cannot be made. The point is made clear by Dr. William in 1896 when he placed under the flourescent screen a vulcanite cup full of pus and beside it another full of serous fluid, no difference between the respective shadows cast on the screen was made.

If we examine the chest with the fluorescent screen we can never fail to recognize an abnormal condition of the thorax if pleuritic effusion or an empyema be present.

The X-ray examinations may be of assistance in making the diagnosis and in directing the physician where to insert the needle when the chest is to be tapped. This may seem very simple to some but I have seen experts in Boston City Hospital try several times before they found the fluid cavity. Displacement of the heart caused by fluid in the chest may be very marked and still not detected at all by percussion or if detected, its extent may not be accurately estimated. An X-ray examination is a more trustworthy test of a displaced heart in pleurisy with effusion than by percussion. This also has been

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proven by actual test. If, then, we cannot accurately determine by percussion where the heart is, it may be of vital importance to determine that fact, otherwise we might puncture the heart itself.

In cases of encysted pleurisy the physical signs may be difficult to interpret and the real condition present may be more clearly indicated by an X-ray examination than by any other method. Fluid may not only be encysted in the pleura against the thoracic walls but may also be inclosed in the pleural membrane between the lobes of the lungs and such a collection of fluid would be extremely difficult to be determined by percussion but would cast a shadow by the X-ray if the lungs surrounding it were at all clear.

Experts tell us that they can diagnose tuberculosis after pleurisy with effusion. The X-ray may also be used in detecting aneurisms and will also assist us in distinguishing new growths in the thorax from aneurisms. Tumors on the brain have been located by X-ray and thus an operation has been possible.

A patient was once sent to me by Dr. C—— for examination; it appeared that the tibia was involved and roughened but when I applied the X-ray it very quickly showed that the bone was not involved and thus cleared up the diagnosis.

Diagnosis of tuberculosis of the hip can be determined by the X-ray. A child was once sent to Dr. Bradford who was thought to have the initial symptoms of tuberculosis of the hip; the diagnosis was proven by the thickening of the bone as shown by the X-ray.

No surgeon can do good work without this most important aid. He must first familiarize himself with normal bones and joints, otherwise he may be led into error; for instance, an epiphyseal line in a child may be mistaken for a fracture.

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Case 1. Dr. J—— brought a patient to me and I put up the fracture with the aid of the X-ray, took a picture and got a fine result; the patient went from my office and had no after treatment and you can infer just what the result was. There was a bit too much fixation as you always get when the passive motion is neglected. I have an X-ray photograph, No. 1 shows the case I refer to and you can see yourself that the apposition was fine.

Case 2. A lawyer was playing base ball, a pitched ball hit him in the elbow and fractured the olecranon process. I reduced the fracture under ether, applied a straight splint with arm extended; never did I work harder for a result. In two and a half weeks I began passive motion and moved the arm two and a half inches the first day, the next day, October third, I moved it three inches, October fifth four inches, and October sixth four inches. I changed the angle every few days until I got the arm to practically normal. The patient now can button his collar at the back of his neck and it takes a pretty sharp angle to do that.

Case 3. A telephone lineman came to my office with this history; he was climbing a telphone pole when suddenly he lost his hold and fell to the ground. This happened at 8.30 a. m. As he was about ten miles from my office he did not show up until 8 p. m; there was some swelling to say the least. When I tried to examine it in the evening it was hard to make out that the olecranon was fractured; I applied the X-ray and you will note in the photograph that the fractured olecranon process shows very distinctly. Practically the same treatment was adopted as in case two and the result in this, too, was very gratifying; he has no deformity and his functional result is perfect.

Case 4. A patient was sent to me by Dr. M—— to have an X-ray photograph taken. The doctor said to me, "There is no shortening and the functional result is very

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good." You can see for yourself how very far from perfect the apposition of the fibula is; the fibula over rides itself. Now, an X-ray picture like this before a jury in a malpractice suit would be an extremely unfortunate bit of testimony.

I am not setting myself up as getting any better results than my brother physicians as you will now see I am going to tell one on myself. I simply set this forth to show how hard it is to get both a good functional and an anatomical result and at the same time a result that will stand before the optic nerve of the X-ray.

Case 5. A boy aged seven broke both bones of the forearm; I treated the fracture and when I thought I had a fairly good result looked at it with the X-ray. To my grief the bones were not in apposition, there was some over riding with the ends of the bone and yet I got a fine functional result.

The patient thought he had a fine result. "Let him who would be a boaster of perfect results in bone surgery just consult the X-ray and he will very often find that the X-ray is a very heartless consultant."

Case 6. A boy about fourteen years old while skating got his skate caught in the ice and was carried home; I was called to the case and when I arrived I found a very bad deformity. The lad was put under ether and I diagnosed a fracture of the tibia and fibula; an ice bag was applied to keep down the swelling and inflammation. On the ninth day I put up the fracture in a plaster cast. You will see in the picture that the fracture was very oblique This X-ray was taken after the union had taken place and a very satisfactory result obtained both physically and anatomically. The patient could jump on the injured leg with great ease.

Case 7. This patient was referred to me by Dr. C——. Miss B—— gave this history; she was riding down a very steep hill when suddenly the hold-back broke and the

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horse began to run at lightning pace down the incline. An X-ray picture was taken August seventh, nineteen hundred seven, five minutes exposure was given. As you will see in the picture the radius was broken at the end; this fragment could easily have been overlooked without an X-ray.

Case 8. It is often easier to make a diagnosis of a very sick patient than of a normal one, so it is in the case of a fracture. It is much easier to make a correct diagnosis in a very bad fracture with deformity than one where there is no fracture at all. I am going to show you a picture of a case sent me for a supposed fracture of the ulna. The X-ray as you can readily see very clearly settles that argument by showing that there was no fracture.

Case 9. Patient sent me by Dr. D—— for an X-ray photograph. Mrs. H. gave this history; she was riding along when suddenly the horse became frightened by a load of hay and began to climb a stone wall with great alacrity, starting for the tall timber. The patient was thrown out receiving a fracture of the fibula; a little too high to be called strictly a Potts fracture. But, instead of tearing the deltoid ligaments, it took part of the internal condyle. You will also note in the picture that there is a fragment on the inner aspect of the fibula between the tibia and fibula. And, right here is another point that I want to emphasize, when a patient comes to you or you are called to see a patient, when there is swelling to the depth of three inches to the bone, how is a man going to detect the fragment of bone when there is swelling three inches from the bone and that fragment is between two bones? I say, it is an impossibility.

This X-ray was taken after the bony union had taken place and you can see from the picture that the fragment is not in apposition and that the condyle is not back in

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place but the patient had a very fine functional result and was highly pleased.

Case 10. I was called in to see Miss Q—— who had sprained her ankle; I made the diagnosis of a sprained ankle but she did not get along very rapidly and the ankle had swollen a good deal and so to convince her that I was right and that the ankle was not broken I took an X-ray picture and you can see for yourself that there is no suggestion of a fracture. Again, it is sometimes very gratifying to know and also to prove to the patient that your diagnosis is correct.

Case 11. I was called to a camp, where about thirty men were employed by a large lumber concern, to see a man who had his leg jammed between two logs; so great was the pressure that it took several men to extract the man's leg. I found a broken fibula, in the lower third plus a broken internal condyle of the tibia. The patient was removed from the camp to town, a distance of about twelve miles. In a few days I took an X-ray picture and confirmed my diagnosis as you will note in the X-ray plate. The fracture was adjusted and put up in a plaster cast on the ninth day. Plaster cast was removed on the thirty-sixth day after the accident. I did not detect the fragment in the fibula until it was revealed to me by the X-ray. You will see that the fragment is not in perfect apposition, also the process of the tibia is not exactly right but the patient walked without a cane in about seven weeks and thinks he has a perfect result. However, I should not care to show the X-ray picture before a jury. There is one thing about it, if anyone has an X-ray it will soon take the pride and conceit out of him.

Case 12. Dr. F—— sent me a Mr. Smith to have a fracture examined under the X-ray. The radius was broken in the upper third; it was readily shown by the X-ray picture.

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Case 13. Mr. S. came to me for supposed fracture of the metacarpal bone of the index finger. It is very clearly shown by the X-ray that no fracture exists. It is very gratifying to say to our patients that our diagnosis is correct and also that we can prove it to them with their own eyes.

14. The following X-ray picture will illustrate the class of cases which we meet with frequently at the shoe shop. A young man came in with a lasting tack from a sole laying machine driven in the palm of his hand. I removed the tack by means of the X-ray with a single cut. The position of the nail can be seen by referring to the X-ray plate.

Case 15. Case 15 was sent to me by Dr. G. who, on August 20, 1908, stuck a cambric needle in the end of her finger and the end broke off. On October 19, under local anesthesia, I removed the end of the cambric needle.

Case 16. The following X-ray plate will illustrate the class of automobile accidents. Now, that automobiles are so numerous, it is a very common occurence to have the crank come up and give the crankee a broken wrist. Mr. H. went out to his auto house one morning and thought that he would give his machine a turn; the crank came up and gave him a Colles fracture. By means of the X-ray I was able to adjust the fracture without any pain to my patient or resorting to an anesthetic. The X-ray picture shows the result as very good.

Case 17. A Mr. S—— was thrown from his wagon and received a very bad fracture of the astragalus. I made an X-ray plate of five minutes exposure with a heavy tube. The first picture shows a side view where the astragalus is plainly seen removed from its natural position and lays back of the ends of the tibia and fibula. On account of the swelling it was impossible to make out the exact condition of affairs but the X-ray showed it out very plainly to us. The bone was cut down upon and

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removed, leaving about three-fourths of an inch space and it seems remarkable how completely nature filled in this space. This accident occured July 12th and the patient was able to go deer hunting in the fall.

Tuberculosis of the lung has been diagnosed by the X-ray before tubercle bacilli were found in the sputum or before any physical signs could be detected even by experts. I have seen an X-ray plate showing the glands of the lungs affected before any other signs were manifested.

Dr. Williams tells us if we have to wait until the bacilli are present before making a diagnosis of tuberculosis we are doing no more than the medical student can do. Here again a great triumph has been won; if cases are taken early a very large percentage will be cured. I look at this in about the same light as we regard appendicitis; as soon as the diagnosis of appendicitis is made then is the time to operate. If we can get the tubercular cases in the early stages we ought to have a high percentage of cures.

*The X-ray played an important part in the early study of enteroptosis; bismith meal and the X-ray have served to establish definitely the relationship of body form to the prolapse of the viscera and to revolutionize our ideas as to form and position of the stomach and intestines. The diagnosis of ulcers of the stomach and duodenum can be made by means of the X-ray.

Dr. Harry Adler of Baltimore gives a single dose of one and one-half drams of bismuth subcarbonate in half a glass of water and waits sufficient time for the stomach to get rid of it.

*Medical Journal, November 26, 1910.

A picture was taken on an empty stomach. This allows ample time for all bismuth to disappear from the stomach and duodenum except such as may be deposited in the crater of an ulcer. In every case it was found that the bismuth had left the stomach in four hours. Other

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great strides are being made in surgery of blood vessels.

You are all familiar with the case cited by Dr. Alexis Carrel of the Rockefeller Institute, when a small child was rapidly ozzing out his life's blood the doctor had the father lie down beside the child and opened an artery in the father's forearm and a vein in the baby's leg and sewed the two together. With every pulsation of the father's heart a fresh supply of blood was pumped into the veins and arteries of the little one with the result that the child lived.

Dr. Crile of Cleveland when he desires to operate upon a person too weak to bear the shock of an operation has devised a method where the blood of a healthy person is caused to flow into the veins of the weak one and thus the operation can be performed with no especial risk to the patient.

Again, nerves which have become withered are sewed to healthy ones and the function of the muscles is restored to normal action.

Viewing the interior of the bladder by means of the cystoscope and catheterizing the left and right ureters and thus be able to analyze the urine and determine the abnormal kidney from the normal and make the safe removal of the abnormal kidney possible, are indeed triumphs of modern surgery.

The X-rays will continue to become of more value for examining diseases of the bones and joints as the apparatus improves; their value in these diseases will also increase as the practitioner learns to interpret better what the radiograph presents.

In conclusion I would say, that although I have devoted a greater part of this paper to the aids to surgery in which I have become most interested, i. e., the use of animals in our experimental work and the use of the X-rays as an aid to diagnosis, innumerable forces are working for scientific advancement in surgery.

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The Mayos believe that it was their work on the cadaver which enabled them to accomplish such wonderful results. And again, the use of the enormous sums of money which the wealthy men of today are more and more frequently placing in the hands of scientists for study and research along these lines. All these things and many others might be mentioned as aids to modern surgery and consequently, aids to suffering humanity.

I may add that the X-ray has its limitations. Down at the city hospital in Boston last summer, there was a patient who had a supposed trouble from a renal calculus. The X-ray was mistaken; it showed no stone, but they were so convinced that the doctor operated and found one inch from the kidney one about the size of a lima bean. After it was removed they tried experiments with the X-ray and it showed nothing at all. There seems to be some stones that the X-ray will not show. There was a case of gall stones sent to Boston a few weeks ago. I am told that three plates were taken and showed no stones whatever, but Dr. Richardson operated and found them. I counted 74 myself and a man told me there were four more. Four or five of them were about the size of a nutmeg, so you cannot always rely on that alone.

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REPORT OF COUNTY SOCIETIES

BELKNAP COUNTY

A. H. HARRIMAN, Sec'y.

Belknap County Medical Society has held monthly meetings during the last year, excepting during the summer months of July, August and September.

This society has had papers each month, and these meetings, like all other meetings of this society, have been held at the offices of the members, so far as possible to accommodate attendance. The average attendance is eleven. Homeopaths do not join our society and they rarely attend, though every medical man in the county regularly gets notices of meetings, and their co-operation has been personally solicited.

It would seem in the light of modern scientific medicine that the day for partizan medicine had passed, and it is to be hoped that ere long it will be so, for men who regularly attended these meetings cannot prevent positively or negatively, doing a lot of good. Each must give or receive, and it matters very little which in these days.

This society conducted the post-graduate school until the month of January, 1911, when it was allowed to lapse for the want of sufficient general interest to keep the course going.

There are thirty-six (36) physicians in Belknap County. Of these five are homeopaths. There are in good standing twenty-two members who have signed the by-laws of the County Society. Of these, two members live in Grafton County and have joined Belknap County Medical Society by permission of their own county society, and for their own convenience. One member not included in above is honorary and lives in Massachusetts.

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CHESHIRE COUNTY.

E. A. TRACY, Sec'y

During the past year the following members were elected to membership:

Dr. H. G. Williams of Gilsum.

Dr. Everal C. Haviland of Keene.

The censors have the application of Dr. Taft of Keene under consideration, and recommended that the application of Dr. Arthur Liston of North Walpole be laid on the table for one year.

Dr. F. C. Worcester of Keene, was dropped from the roll for doing contract work. Dr. B. T. Mousley was expelled for unprofessional conduct of a degrading nature and the resignation of Dr. Wm. M. Robb, was accepted. In connection with this acceptance it was voted by the society that the following be spread upon the records of the Society: "On account of unprofessional conduct in promising to perform a criminal operation and in resigning from this society while under charges to be preferred, that Dr. W. M. Robb is not a fit person to become a member of this or any other medical society in the state of New Hampshire."

Dr. F. C. Sweeney of East Jaffrey resigned from the society last June, rather than be compelled to join the State Society.

The October meeting of the Society was held at the Cheshire House, Keene, Oct. 29, 1910. A very instructive paper, "Publicity in Medicine", was read by the president, O. W. Hopkins of West Swanzy, after which he expressed his gratitude to the society for the harmonious way in which it had worked with him during the past year. The following officers were elected:

President, C. S. Walker, Keene.

Vice-President, L. R. Brown, Winchester.

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Sec'y-Treas., E. A. Tracy, Keene.

Censor for three years, to succeed himself, I. J. Prouty, Keene.

Delegates to State Society, S. M. Dinsmoor, Keene; and J. A. Craig, Westmoreland.

The secretary was voted a yearly salary of ten dollars.

Meeting adjourned for dinner. At 1.30 being re-assembled, His Honor, the Mayor, addressed the society on the liability of physicians and surgeons in negligence suits.

After struggling over the knotty problem of contract work for the past five years, Cheshire County Medical Society is pleased to report that no member is doing any such work at the present time. The City and County pay the city and county physicians the regular fees for whatever work they do. The various fraternal organizations are doing likewise. This is a step in the right direction and it is to be hoped that the several county societies will exert themselves to do away with that growing evil in our profession, contract work.

COOS COUNTY.

R. E. WILDER, Sec'y.

Coos County Medical Society has enjoyed a prosperous and profitable year. A meeting was held in June at Gorham, in December at Whitefield, and in March at Groveton. These meetings will be held every three months. Four new members have been added to the society, and one death has occurred, that of Dr. Edward M. Wight of Gorham, one of the oldest and most respected members of our fraternity in this county. The prospects for this coming year are excellent.

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GRAFTON COUNTY.

GEORGE A. WEAVER, Sec'y.

During the past year this society has held two meetings, as has been its custom in other years. These meetings has been well attended, and the papers have been interesting and instructive.

No special changes in membership have occurred, only one new name having been placed upon our rolls. At present there are 77 physicians in practice in this county, and of these 42 are affiliated with the society.

Our officers for 1911 are as follows:

President, Dr. William E. Lawrence, North Haverhill.

Vice President, Dr. John Wheeler, Plymouth.

Secretary-Treasurer, Dr. George A. Weaver, Warren.

Delegates, Drs. Charles R. Gibson, Woodsville, and Edgar O. Crossman, Lisbon.

Censors, Drs. Arthur T. Downing and George W. Hazeltine, Littleton, and Elmer H. Carleton, Hanover.

HILLSBORO COUNTY

E. B. ATHERTON, Sec'y.

The annual meeting was held in the City hall at Nashua, April 4th. It was well attended and six members applied for admission, five of whom were accepted. A report of the committee on illegal practice showed that three cases had been suppressed during the year. President, J. H. Gleason, presided, and gave an interesting address relative to the welfare of the society, and also about mammary carcinoma. His paper was illustrated by charts.

Dr. Hugh Cabot of Boston read a paper on "Tuberculosis of the kidney", and Dr. Ralph C. Larrabee one upon "The treatment of some major blood diseases".

It was voted to hold two meetings yearly instead of one as heretofore.

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The following officers were elected for 1911;

President, Dr. H. L. Smith.

Vice-President, Dr. J. B. Pettingill.

Delegate to State Society for three years, Dr. Wm. H. Abbott.

Executive Committee, Dr. A. F. Sumner, Dr. W. E. Reed, Dr. Charles Holcombe, Dr Zatae Longsdorff Straw, Dr. Eugene Wason.

Auditor, Dr. Bradford Allen.

Sec-Treas., Ella Blaylock Atherton.

CENTRE DISTRICT AND MERRIMACK COUNTY.

P. T. HASKELL, Sec'y.

Meetings were held on the second Tuesdays of April, July and October, 1910, and January 1911.

By invitation of Dr. Chas. P. Bancroft, the April meeting was held at the New Hampshire State Hospital. Assisted by Drs. Dolloff, Macdonald and Landers, Dr. Bancroft gave a most instructive clinic on Dementia Praecox.

The July meeting was held at the cottage of Dr. H. H. Amsden at Contoocook River Park.

In October thirty members of the society journeyed by automobile to Pittsfield and were royally entertained at Sargent Hall by Dr. and Mrs. F. H. Sargent.

The 89th annual meeting was held at the Eagle Hotel, Concord, January 10th, 1911.

A paper by Arthur L. Chute, M. D., of Boston, on Prostatic Obstruction, was listened to with marked interest.

The following officers were elected for the coming year

President, A. A. Beaton, M. D., Franklin.

Vice-President, George F. Munsey, M. D., Suncook.

Sec-Treas., P. T. Haskell, M. D., Concord.

Chaplain, Rev. Stanley Emery, Concord.

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Delegates, C. E. Butterfield, M. D., Suncook; H. H. Amsden, M. D., Concord.

Censors, 3 years, Marion L. Bugbee, M. D. Concord; 2 years, A. M. Fernald, M. D., Sutton; 1 year, C. H. Dolloff, M. D., Concord.

Committee on Program, President, Secretary and O. B. Gilbert, M. D.

Committee on Public Health, President, Secretary, J. W. Staples, M. D., Franklin, D. E. Sullivan, M. D., Concord, and L. A. Sanders, M. D., Concord.

Our active membership is seventy-nine. We have taken in three new members during the year and four have resigned.

ROCKINGHAM COUNTY.

WALTER TUTTLE, Sec'y.

The sixth annual meeting of the Rockingham County Medical Society was held at The Rockingham, Portsmouth, on November 10, 1910.

The president, E. A. Landman, M. D., of Plaistow, called the meeting to order, there being about twenty-five members present. Wm. N. Souter of Portsmouth was unanimously elected to membership. C. F. Patterson of Rye, offered the following resolution, which was unanimously adopted:

"Resolved, that we extend to our friend and brother, Dr. W. O. Junkins, our sympathy in his sickness, and that we, the members of the Rockingham County Medical Society, hereby express to him our feeling of the loss at his absence at this meeting and his genial presence and kindly greetings,

And, that a copy of this resolution be spread on record, and a copy be sent to Dr. Junkins."

The officers for the ensuing year are:

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President, Thomas W. Luce, M. D., Portsmouth.
Vice-President, J. G. W. Knowlton, M. D., Exeter.
Secretary, Walter Tuttle, M. D., Exeter.
Treasurer, A. M. M. Chesley, M. D., Exeter.
Censor for 3 years, Wm. H. Nute, M. D., Exeter.
Delegate for 2 years, A. C. Buswell, M. D., Epping.

The program was as follows: President's Address, "Rational Medical Treatment," E. A. Landman., M. D., Plaistow. "Etiology of Cancer," M. E. Scott, M. D., Portsmouth. "So-called Stomach Trouble," Wm. B. Kenniston, M. D., Exeter.

Recess for dinner at 1.30 p.m. Re-assemble for discussion of papers at 3.00 p.m. Adjournment at 4.00 p. m.

STRAFFORD COUNTY

DR. LOUIS W. FLANDERS, Sec'y.

The one hundred and third annual meeting of the Strafford County and District Medical Society was held at the Kimball House, Dover, N. H., Oct. 27th, 1910.

There were twenty-nine members present.

The following officers were elected for the ensuing year;

President—Dr. M. A. H. Hart of Milton.
Vice-President—Dr. H. O. Chesley of Dover.
Secretary—Dr. Louis W. Flanders of Dover.
Treasurer—Dr. A. Noel Smith of Dover.
Auditor—Dr. M. B. Sullivan of Dover.

Censors—Dr. G. P. Morgan, one year: Dr. D. L. Stokes, two years: Dr. L. E. Grant, three years.

Delegates—Dr. J. H. Bates, one year: Dr. T. J. Dougherty, two years.

Drs. Oliver N. Eastman, Edmond N. Carigan, Patrick J. Kittredge, Jeremiah J. Morin and Thomas J. Morrison were admitted to membership.

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Obituaries

DR. CLARENCE S. BARTLETT, M. D.

Dr. Clarence S. Bartlett, M. D., died May 13, 1910, at Henry Heywood Memorial hospital, Gardner, Mass.

Peritonitis, following appendicitis, was the cause of death, and though everything known to medical science had been done it was impossible to more than forestall the end.

Dr. Bartlett was ill but six days. He was about, visiting his patients Saturday, and put in a hard day. Sunday he was stricken and was taken to the hospital Monday forenoon and Dr. Maurice Richardson of Boston was summoned early in the afternoon and operated at once. Fears that the appendix had become perforated and that peritonitis had set in were realized as soon as the incision was made, and the patient himself as well as the surgeons knew that the odds were against him.

Though Dr. Bartlett retained his cheerful disposition throughout his sickness, he realized that his condition was all but hopeless. He could follow his symptoms with the surgeons and knew that his life was drawing to a close.

Even Dr. Richardson left his Boston practice to assist the Gardner physicians in trying to save the life of their fellow worker. Wednesday night he came to Gardner and remained all night and again Thursday night.

Always on the go from morning until night, Dr. Bartlett was a familiar figure about Gardner and his presence will be sadly missed by residents in all walks of life. But it is among the poorer people that Dr. Bartlett's death will be felt the most. He was the Good Angel of the

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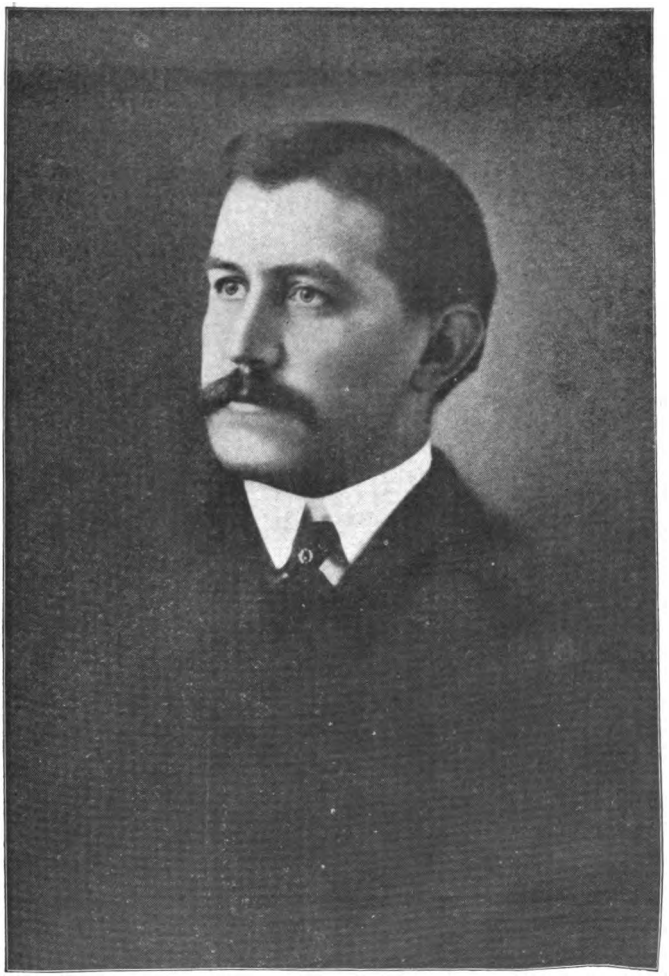

CLARENCE S. BARTLETT, M. D.

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needy in Gardner. It mattered little to him whether the victim possessed a penny or a thousand, or whether he would ever get his fee for attendance. He was always ready to respond to a call at any hour of the day or night, and if necessary stay with his patient through the long hours until dawn.

Pay for his services was the last thing Dr. Bartlett thought of when his patient was in danger.

Dr. Bartlett's death though expected by the other member of the medical profession in Gardner, was a shock to them when it came. They considered him a valuable man in the profession and time and again called him in for consultation.

The popularity which he enjoyed among the physicians was the same with every person he ever met. Though he took but little time for recreation and never entered society, he possessed a pleasing personality and always had a pleasant smile and word for everyone.

Dr. Bartlett was a practicing physician in Gardner nearly 15 years, coming here a stranger and working up the largest practice in town.

He was born in Pittsfield, N. H., July 14, 1868, a son of Jonathan W. and Sarah F. (Emerson) Bartlett, and was an only son, His boyhood and early training was passed in Pittsfield, after which he entered Dartmouth college, graduating from the Medical school there in the class of 1892.

After leaving Dartmouth Dr. Bartlett gained his first practical experience in the Massachusetts State hospital at Tewksbury, where he worked two years. From there he went to the Concord (N. H.) State Insane hospital, where he was assistant to the superintendent and where he remained two years, after which he came to Gardner.

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He was married Oct. 22, 1896 to Miss Carrie F. Powell in Concord, N. H., who with his mother survives him. Dr. Bartlett belonged to but few societies. He was a member of the N. H. Medical Society, the Worcester North Medical Society, the Gardner Boat club and one or two fraternal bodies, but rarely had any time to attend meetings.

In the medical society he was chosen at the last meeting in Fitchburg, three weeks ago, to act as orator at the next annual meeting.

Dr. Bartlett was a noble man, a true physician, a devoted husband. We are all losers by his death,

In the death of Dr. Bartlett his wife and mother have sustained a great bereavement, the community has lost one of its best loved friends and physicians.

GEORGE EDWIN ALLEN, M. D.

George Edwin Allen, M. D., son of Warren and Mary (Goodwin) Allen, was born in Cornish, Me., May 10, 1863, one of a family of sevens sons and one daughter—Charles, of Lynn, Mass., and Jethro and Atwood, of Springvale, Me., alone surviving him.

The father of George died when his son was five years old. The family moved to Springvale, where the boy at twelve years of age worked in a mill, earning a man's pay. With his hard-earned and carefully-saved earnings, George worked his way through the local high school, during which time he took of Dr. Brooks, the town physician, the preparatory work for the medical department of Bowdoin College, which institution conferred upon him the M. D. degree in 1883. Dr. Allen practiced medicine two years at Auburn, N. H., after which he came to Bradford, Mass., now the Bradford District of Haverhill, where he continued, like the Great Physician, to go about doing good till called up higher, Jan. 8, 1910.

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Dr. Allen, Nov. 8, 1885, was united in marriage with Miss Nellie M. Smith, daughter of Richard G. and Martha J. Smith, of Auburn. Two children came to bless this already happy home—George Edgar, now a senior at Dartmouth College, and Mildred Beatrice, a sophomore at Wellesley College, both of whom, with their mother, are active members of the People's Methodist Episcopal Church of Haverhill. While called very suddenly to mourn the loss of one most dearly beloved by everybody, they have much to be thankful for. It would be difficult to find a man with a life more beautiful, fruitful and complete, crowded into forty-seven short years. Not only was Dr. Allen a most skillful physician with a very extensive practice, but he was always his pastor's assistant without salary from the church. Indeed, he was a large giver of the material gifts for its welfare as well as of spiritual blessings.

Dr. Allen experienced religion while at Auburn, and upon coming to Bradford united with the local Congregational Church, as that was the only church in the town. But in 1890, when the People's Methodist Episcopal Church was organized at Bradford, he transferred his membership to that society. He was a useful and devoted worker from the beginning, and will be greatly missed by the church. As chairman of the church building committee, he gave of his good judgment and interest and as treasurer of the trustees he was a faithful and trusted steward from the beginning till he gave the final account of his stewardship to his Lord. Only the Monday evening before God took him unto Himself, he attended the last official board meeting, and took a deep interest in the revival meetings under consideration.

As it was with the extensive growth of the city of Haverhill, which twelve years ago incorporated Bradford with itself, so Dr. Allen, by his skill as a physician, and

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his kind, sympathetic, Christian ways, not only made for himself a large place, and endeared himself to the whole city, but he made the people everywhere better because of his life. An evidence of this was seen at the public funeral service in the church, when the people in tears—doctors, friends of the church, and social organizations with which he had been connected, and people of all nationalities and creeds from all over the city—crowded almost to suffocation the auditorium and adjoining rooms. His pastor, Rev. H. G. Butler, conducted the service at the house, and was assisted at the church by Rev. Henry Allen, of Manchester, and by Rev. F. M. Estes, Rev. E. C. Bridgham, and Rev. J. Wood, former pastors. Messrs Bridgham and Estes spoke at length of the doctor's noble, useful, and cheerful life as they had known him in other days. The official board drew up fitting resolutions, which were presented to the family, placed on the church records, and published in the city papers.

THEODORE M. TOGUS, M. D.

Theodore M. Togus, M. D., one of Hooksett's leading citizens and a practising physician there for 23 years, died Thursday, July 28, after a long and painful illness, at the age of 57 years.

Dr. Togus was born in St. Johns, Province of Quebec, coming to Vermont with his parents at an early age. He came to Concord, N. H., at 17 years of age and entered the public schools of that city, where he received his early education. After leaving the public schools he entered commercial life, in which he was engaged for about 10 years. He then decided to study medicine and entered the Univercity of Vermont College of Medicine, where he was graduated in 1886.

He practiced for a time in Lowell, Mass., and later in Concord, finally locating in Hooksett where he enjoyed

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THEODORE M. TOGUS, M. D.

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a wide and lucrative practice for many years. By industry he accumulated considerable property and was always very public spirited and energetic in his views, having the welfare and prosperity of his town ever in mind.

He was a member of the board of trustees of the public library, and the board of health, and an ex-member of the school board. He belonged to the Centre District Medical Society, of which he was an ex-president, and also the New Hampshire Medical Society, and New Hampshire Surgical Club. He was a past noble grand of Friendship Lodge, No. 19, I. O. O. F., and a member of Jewell Lodge, No. 49, A. F. & A. M., and of the Grange.

He is survived by a widow, a son, Dr. Leopold T. Togus of Hooksett, a daughter, Mrs. Willaim A. Cowan of Brooklyn, N. Y., two sisters, Mrs. Edward Busiere and Mrs. Louis Busiere of Taunton, Mass., and one brother, Edward Togus of Seattle, Washington.

JOHN LORING BURNHAM, M. D

John Loring Burnham was the son of Stephen F. and Lorinda Burnham, born at Goffstown, Sept. 7, 1857. He was educated at Francestown Academy and in the common schools. Studied medicine with Drs. Parsons and Flanders at Manchester. Graduated in medicine in 1887 at Dartmouth. Practiced first in Manchester a few months, then at Candia for two or three years. Returning to Manchester resumed practice until health failing, he moved to New Mexico in 1897 where his practice was limited to office work.

In May 1910 he was attacked with kidney complications and never practiced thereafter. He died Jan. 13, 1911. He was a member of the New Hampshire Medical Society and New Mexico Medical Society; also a local society at Las Cruces.

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He was married in 1893 to Miss Hattie S. Colcord of Candia, N. H. He had no children. He was buried in Candia.

JOSIAH NICHOLS WOODWARD, M. D

Dr. Josiah Nichols Woodward, one of Nashua's best known physicians, died November 28, at his home on Park street of an abcess of the liver.

He was taken ill while at his summer home at Hebron this state, October 21, and eleven days later was removed to Nashua, making the journey on a cot.

The end came quietly and peacefully and in his death Nashua loses one of its best citizens, a man who held his professional ideal most high, who never faltered in any sacrifice for the aid and succor of any patient, however humble, and whose interest in all that pertained to Nashua was of the most enduring and substantial kind.

Dr. Woodward was born in Groton, now a part of Pepperell, Mass., Sept. 6, 1856, the son of A. S. Woodward. He is a descendant of Gen. Winfield Scott and Col. Martin Scott on the paternal side and of the Littlehales and Nichols of Massachusetts on the maternal side. Dr. Woodward was educated in the public schools of Nashua, at McGill University, Montreal, and at Harvard University and Dartmouth College. He studied medicine and surgery in the office of Dr. S. W. Fletcher, Pepperell, Mass., and entered Dartmouth College, from which he was graduated with the degree of M. D., in 1879. He located in Nashua, Jan. 1, 1880, and since that time had practiced his profession with a marked degree of success. Dr. Woodward held the office of city physician three years, also that of county physician for Hillsboro County and had been a member of the board of health four years; he had served two terms each in the common council and the board of aldermen, and

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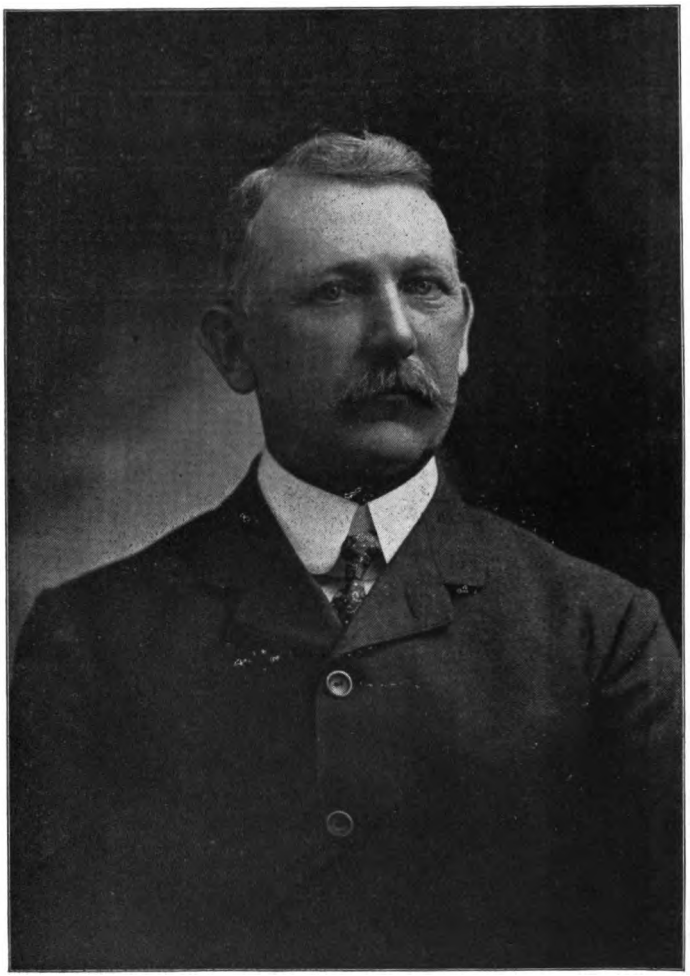

JOSIAH N. WOODWARD, M. D.

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represented his ward in the legislature in the session of 1892, serving as chairman of the committee on public health.

His course at the state house was marked with a spirit of independence and high regard for the public welfare.

Two years ago he was again elected to the legislature from ward four and served with distinction upon a number of the most important committees of the house, among them being the committee on appropriations.

At this session of the legislature, Dr. Woodward's most signal service to this part of the state was the introduction of the Woodward bill, so called, which while it failed of passage, calling for an immediate rebuilding of the bridge across the Merrimack at Taylor's Falls, not only resulted in the passage of a general bridge bill, but it so focused public attention upon the precarious condition of the iron bridge across the Merrimack that the present concrete structue, which is about completed at the present time, became a matter of course.

He was for four years president of the Republican club of ward four, and was active in promoting the interests of his party during the recent campaign at the expense of his own health.

Dr. Woodward was one of the substantial supporters of the Emergency hospital from the start of that institution and was a member of its staff since its organization. He served faithfully several terms as chairman of its executive committee, and was a member of the Nashua and the New Hampshire Medical Societies.

He was a mason, being a member of Ancient York lodge, A. F. & A. M.

Dr. Woodward was highly esteemed both as a physician and as a man, being painstaking and kindly, charitable and thoughtful of others in both his professional and social relations. He was a most lovable and entertaining companion.

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In January, 1881 he married Nellie F. Tupper, daughter of the late Freeman Eastman and Susan (Howe) Tupper, by whom he is survived.

CHARLES F. KINGSBURY, M. D.

Dr. Charles F. Kingsbury was born in Gilsum, N. H. June 11, 1824, son of William and Temperance Kingsbury. His father being a practical farmer, brought up his sons with a thorough knowledge of his own independent avocation, consequently the common school was all he had access to until out of his teens, when he determined to begin (depending on his own resources) the pursuit of a higher course of study which was to fit him for the professional place he so long and successfully filled. He pursued his studies at Mt. Censer Academy, Swanzey and at Brattleboro,Vt., and later by teaching was enabled to take a course at Norwich University, Norwich, Vt. In 1851 he began the study of medicine with Dr. J. G. Murphy of Brattleboro, Vt., and Dr. Leland J. Graves of Langdon, teaching winters with much success, being a good disciplinarian as well as a faithful instructor.

He further supplemented his studies by courses of medical lectures at the Vermont Medical College, then located in Woodstock and at Dartmouth from which he was graduated in November 1855.

He began his practice in his native town where he remained one year, when he removed to Stoddard, remaining four years. In 1860 went to Lyme, succeeding to the practice of Dr. Adoniram Smalley, and remained 30 years, becoming the senior practitioner in the professional field for a radius of twenty miles, being often called in consultation to Enfield, Canaan, Piermont and Warren and across the river Connecticut to Fairlee, Corinth, Strafford and Norwich, Vt.

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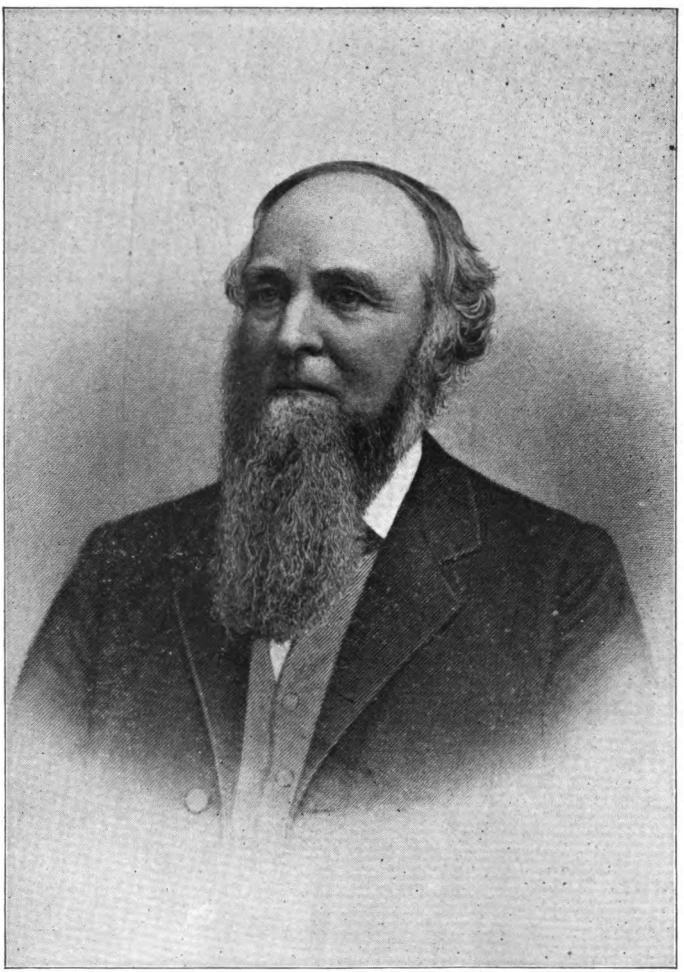

C. F. KINGSBURY, M. D.

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Others came and went, he attended carefully to the duties of his calling and the needs of his patients, built up a large practice, which, while it called for constant toil and great physical endurance, was a gratifying tribute to his skill as a practitioner and proved the confidence which was reposed therein.

He was always interested along all lines for the betterment of the public welfare, especially educational; was a member of the Congregational church and for seven years an efficient member of the State Board of Agriculture; from 1883 to 1885 an active member of the Board of Commissioners for Grafton County. He was a member of the New Hampshire Medical Society for over 50 years and often in the 60's related in the meetings some of his experiences along medical lines.

In the spring of 1890 he retired from active practice and came to Massachusetts.

Dr. Kingsbury was united in marriage Oct. 27, 1857, to Miss Sarah A. Pierce of Cavendish, Vt., who survives him, as does his daughter, Ella S. who married Dr. J. Walter Bean, and a grandson, Charles F. Kingsbury Bean, M. D., a graduate of Tufts College, 1907, and Harvard Medical School, 1911, all living in West Medford, which has been his home and where, after an illness of about three weeks from grip which developed nephritis from which he did not rally, he died on Sunday, Feb. 12. Burial was in Oak Grove Cemetery.

JAMES BUCHANAN PETTENGILL, M. D.

James Buchanan Pettengill was born in Londonderry, N. H., May 10th, 1858, and died at St. Joseph's Hospital at Nashua, April 30th, 1911, of a brain abcess, caused by mastoiditis.

He was the third child of James and Eliza Adams Pettengill, and received his early education in the schools of Londonderry; he then entered Pembroke Academy,

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from which he was graduated in 1880. He studied medicine with Dr. D. S. Adams of Manchester, and graduated from the University of Vermont. He also attended lectures at Dartmouth Medical College.

In 1884 he began the practice of medicine in Amherst, N. H. He married Ada E. Bartlett of Allenstown, who with an aged mother and five children, survives him.

He joined the New Hampshire Medical Society in 1884. He was also Vice-President of the Hillsborough County Medical Society.

He was prominent in fraternal orders, being a member of Benevolent Lodge, No. 7, A. F. & A. M., and King Solomon Royal Arch Chapter of Milford, St George Commandery, Knights Templar, of Nashua; New Hampshire Consistory, Custos Morum Lodge, I. O. O. F., and Prospect Hill Encampment; Vigilant Lodge, Knights of Phythias, and Uniformed Rank Knights of Phythias.

His last illness was of seven week duration, in which every means known to medical science was tried, but the strain of the several operations proved too great.

VESLEY MARVIN NEWCOMB, M. D.

Dr. Vesley Marvin Newcomb, who died April 25, 1911, of cirrhosis of the liver and whose funeral services took place Thursday (Fast Day) afternoon, was practically a life long resident of Somersworth and Berwick.

He was born on the Maine side of the river in our sister town, on March 23, 1861. His parents were James G. and Olive (Manning) Newcomb, and he was one of a family of seven children. His mother died about twenty-seven years ago and his father last November.

Vesley spent his early life on the farm where he was born, about four miles from the Berwick post office. He received his education in the Berwick public schools supplementing that with a course in an academy in Massachusetts, from which he entered the University of Vermont Medical School, graduating from the same in June

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VESLEY M. NEWCOMB, M. D.

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1884. He immediately returned home and opened an office in this city, where he has since practiced. The doctor knew the human body and was a very successful and skillful surgeon.

Several years ago, in the fall of the year, he slipped on some wet leaves on the side walk and sustained a fall which hurt his spine, and for a while his life was dispaired of. He recovered in a degree, but never was as well as before his injury. The doctor was a member of the New Hampshire Medical Society, the Strafford County Medical Society and also the local medical society.

In politics he was a Republican and could have had almost any office he wanted if he had said the word, but he did not care for the honors although he did at one time we are informed, serve on the board of health under the old town form of government. He was a quiet and retiring and cared nothing for society. He was, however, greatly interested in the collection of antiques and as he visited here and there on business bought articles and added them to his collection which was one of the most complete in New England. He conducted several sales in recent years and then disposed of considerable of his stock, but there is a large quantity of these left. The doctor was never married and is survived only by two brothers, Charles E., of Manchester and James W., of Red City, Michigan, and one niece, Mrs. W. E. Leighton of West Somerville, Mass.

He was a mason and belonged to all the York and Scottish bodies to the thirty-second degree inclusive and also belonged to the order of the Mystic Shrine.

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List of Members, 1911.

An asterisk (*) indicates a retired member.

Admitted	Name	Residence
1872.	Abbott, Alfred W.,	Laconia.
1894.	Abbott, Clifton S.,	Laconia.
1899.	Abbott, Walter H.,	Hillsborough Bridge.
1894.	Adams, Chancey,	Concord.
1904.	Aldrich, Ezra Barnes,	Manchester.
1906.	Aldrich, Lewis Clarence,	Whitefield.
1888.	Aldrich, Walton H.,	Marlborough.
1886.	Allen, Bradford,	Nashua.
1878.	*Allen, Carl A.,	Holyoke, Mass.
1890.	Allen, Clarence Jean,	38 Church St., Winchester, Mass.
1901.	Allen, Walter Algeno,	East Hampstead.
1909.	Allin, Fred Andrea,	West Stewartstown.
1908.	Amsden, Henry Hubbard,	Concord.
1908.	Andrews, Ezekiel Bennett,	Ossipee.
1894.	Annable, Edwin G.,	Concord.
1876.	Anthoine, Isaiah Gilman,	Nashua.
1889.	Atheron, Ella Blaylock,	Nashua.
1898.	Axtell, John Fremont,	Newton.
1910.	Babbitt, Charles H.,	Nashua.
1907.	Bailey, George S.,	Hillsborough Bridge.
1902.	Bakeman, Francis Albert,	Franklin,
1911.	Baker, Benjamin W.,	Laconia.
1909.	Baker, Norman C.,	
1909.	Baker, Ida Belle,	Manchester.
1896.	Baketel, H. Sheridan,	622 W. 113th St. New York.
1910.	Ballard, Clarence Pressey,	Gilmanton Iron Works.

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1882.	Bancroft, Charles Parker,	Concord.
1911.	Barbour, Walter Leigh,	Berlin.
1902.	Barker, Ralph Higgins,	Chester.
1909.	Bartlett, Percy,	Hanover.
1907.	Bastian, George Leon,	Manchester.
1907.	Batchelder, Edward C.,	Dover.
1908.	Bates, John Howard,	East Rochester.
1885.	Bean, J. W.,	East Medford, Mass.
1898.	Beaton, Alexander Angus,	Franklin,
1900.	Beattie, William Johnston,	Littleton.
1898.	Beauclerk, William P.,	Concord.
1908.	Baudet, Louis Philippe,	Newmarket.
1898.	Bell, Ernest Lorne,	Plymouth.
1909.	Bennett, Harry W. N.,	Manchester.
1886.	Berry, John J.,	Portsmouth.
1909.	Berry, Nathaniel L., Jr.,	Melvin Village.
1907.	Black, James S.,	Nashua.
1878.	Blaisdell, Frank,	Goffstown.
1869.	Blaisdell, George Clark,	Contoocook.
1907.	Blake, C. A.,	West Brookfield, Mass.
1905.	Blanchard, Roscoe G.,	Dover.
1897.	Bogardus, Frank A.,	Canaan.
1879.	Boutwell, Henry T.,	Manchester.
1883.	Boutwell, Henry Winslow,	Manchester.
1907.	Bowker, Charles Harvey,	1300 Massachusetts Ave. Washington, D. C.
1909.	Bowler, John William,	Hanover.
1909.	Boynton, Harry Hollister,	Lisbon.
1909.	Brien, Augustus A. E.,	Manchester.
1888.	Brigham, Frank E.,	Salmon Falls.
1909.	Brooks, Robert H.,	Claremont,
1897.	Brown, Elmer F.,	Groveton.
1909.	Brown, Hurbert Leslie,	Hinsdale.
1909.	Brown, Lester Rupert,	Winchester.
1900.	Brownrigg, Albert E.,	Nashua.
1907.	Bryar, Fred Elmer,	North Sandwich.

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1907.	Buckley, James Joseph,	Milton.
1908.	Bugbee, Marion L.,	Concord.
1909.	Bullock, Lillian Gertrude,	Manchester.
1856.	Burnham, Hosea B.,	Manchester.
1884.	Burns, Robert,	West Newton, Mass.
1909.	Burtt, Edward Daniel,	Lincoln.
1909.	Buswell, Albert Currier,	Epping.
1906.	Butterfield, Clarence E.,	Suncook.
1893.	Buzzell, Charles P.,	Napoleon, N. D.
1910.	Cain, J. Leavitt,	Newport.
1911.	Carignan, Edmond N.,	Dover.
1906.	Carleton, Elmer Howard,	Hanover.
1910.	Caron, Dumas,	Laconia.
1899.	Carpenter, Harry B.,	Lancaster.
1892,	Carpenter, Irving Lloyd,	Manchester.
1902.	Carr, Burt Wilber,	Pittsfield.
1879.	Carvelle, Henry DeWolfe,	Manchester.
1902.	Charest, Joseph C. B.,	Derry.
1907.	Chase, Daniel Robert,	Lebanon.
1907.	Chase, Ezra Clark,	Plymouth.
1907.	Cheever, Nathaniel F.,	Greenfield.
1891.	Cheney, Jonathan M.,	Ashland.
1903.	Chesley, Alice M. M.,	Exeter.
1905.	Chesley, Harry O.,	Dover.
1906.	Childs, Alfred Henry,	Dublin.
1908.	Chirurg, Charles,	Manchester.
1899.	Claggett, Fred Porter,	Newport.
1892.	Clark, Edgar A.,	Concord.
1907.	Clark, W. E., Jr.,	Lempster.
1906.	Clarke, George Haven,	Concord.
1907.	Clow, Fred Ellsworth,	Wolfeboro.
1897.	Cobb, Joseph J.,	Berlin.
1909.	Coburn, Clarence O.,	Manchester.
1876.	Cogswell, John R.,	Warner.
1908.	Cogswell, Lloyd H.,	Warner.
1902.	Cogswell, Samuel J.,	Derry.

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1909. Colcord, Daniel Webster, Seabrook.
1897. Cole, Cheney Isaac, Henniker.
1902. Congdon, Charles Everett, Nashua.
1865. Conn, Granville P., Concord.
1899. Cook, Charles Henry, Concord.
1909. Cook, Edwin A., Colebrook.
1869. Cook, George, Concord.
1905. Cooke, T. Bates, Laconia.
1902. Coolidge, John W., Bristol.
1909. Corliss Oscar Luzerne, Mt. Vernon.
1909. Corning, Peter W. F., Goffs Falls.
1898. Cotton, Curtis B., Wolfeboro.
1911. Cotton, Thomas F., Manchester.
1909. Coutu, Joseph Edward, Claremont,
1911. Craft, Harry L., Sanbornville.
1897. Craig, James A., Westmoreland.
1908. Craig, Willis Parker, Walpole.
1900. Crosby, Walter Theodore, Manchester.
1897. Crossman, Edgar O., Lisbon.
1873. Currier, David M., Newport.
1882. Currier, Edward H., Manchester.
1909. Curtiss, Charles Lester, Manchester.
1909. Cushman, Earl Percy, Claremont,
1897. Cutler, Charles Henry, Peterborough.
1873. Cutler, George I., West Swanzey.
1878. Danforth, Mary, Manchester.
1890. Davis, George Moses, Manchester.
1901. Davis, Samuel Wilbert, Sanbornville.
1890. Day, Arthur Kehew, Concord.
1899. Day, Herbert Christopher, Exeter.
1895. Dean, Elmer E., Lebanon.
1876. Dearborn, Darius Stearns, Northfield, R. F. D. Franklin.
1906. Dearborn, Edmund G., Antrim.
1908. Dearborn, John H., 83 Bridge St., Salem, Mass.

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1907.	Dearborn, Luther G., Jr.,	Derry.
1899.	Dearborn, Samuel S.,	Nashua.
1910.	Deaudelin, Alfred,	Nashua.
1909.	DeGross, John H.,	Bath.
1908.	Dennison, Raymond C.,	Berlin.
1911.	Dinsmoor, Frank M.,	Keene.
1869.	Dinsmoor, Silas M.,	Keene.
1902.	Dolloff Albert Simeon,	New Hampton.
1905.	Dolloff, Charles Hall,	Concord.
1896.	Dougherty, Thomas J.,	Somersworth.
1899.	Douglas, Orlando B.,	Concord.
1910.	Dow, Jessie A.,	Claremont,
1910.	Dowlin, Winfred Mason,	Claremont,
1905.	Downing, Arthur,	Littleton.
1883.	Drake, Charles B.,	West Lebanon.
1897.	Drake, Ervin Thayer,	Franklin,
1904.	Drew, John A.,	Rumney.
1897.	Dunbar, Eugene B.,	Manchester.
1905.	Duncan, Charles,	Concord.
1897.	Eastman, Charles Albert,	Winchester.
1904.	Eastman, Eugene Bruce,	Portsmouth.
1883.	Eastman, Oliver Davis,	Woodsville.
1911.	Eastman, Oliver N.,	Dover.
1906.	Easton, Frank Birch,	Laconia.
1879.	Eaton, Frank,	East Weare.
1911.	Ellison, Daniel J.,	Alton.
1907.	Emerson, George Short,	Fitzwilliam.
1889.	Erskine, James B.,	Tilton.
1900.	Evans, Frank W.,	Coos.
1878.	Fairbanks, Charles A.,	Dover.
1890.	Faulkner, Herbert K.,	Keene.
1909.	Fellows, George Roberts,	Seabrook.
1910.	Ferguson, Samuel T.,	North Weare.
1901.	Fernald, Arthur May,	Sutton.
1902.	Fernald, Fred,	Nottingham.
1906.	Finerty, Joseph William,	Milford.

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1883.	Fisher, Edwin C.,	Sunapee.
1883.	Fisher, Franklin Pierce,	Enfield Centre.
1901.	Fiske, George Varnum,	Manchester.
1907.	Fitch, Emery Moore,	Claremont,
1883.	Flanders, Charles F.,	Manchester.
1896.	Flanders, Louis W.,	Dover.
1896.	Flanders, Marietta E. M.,	Hopkinton.
1910.	Folsom, Charles Albert,	Manchester.
1909.	Foss, George H.,	Alstead.
1902.	Foster, Avery Moulton,	Candia.
1908.	Foster, George S.,	Manchester.
1907.	Fowler, Fred Abram,	Hill.
1897.	Fowler, Isaac Newton,	Lebanon.
1908.	Fraser, Samuel,	Wentworth.
1885.	French, Edward,	Harding, Mass.
1875.	French, L. Melville,	Manchester.
1893.	Fritz, Emdon,	Manchester.
1893.	Frost, Gilman DeBois,	Hanover.
1899.	†Gallinger, Ralph Ernest,	Concord.
1887.	Garland, William Russell,	Plymouth.
1897.	George, Arthur Phillips,	Haverhill, Mass.
1909.	Gerald, Francis Leverett,	Warren.
1901.	Getchell, Stillman, P.,	Wolfeboro.
1881.	Gibson, Charles Reed,	Woodsville.
1898.	Gibson, John Mitchell,	McIndoes Falls, Vt.
1909.	Gilbert, Oscar B.,	Concord.
1898.	Gile, John Martin,	Hanover.
1899.	Gilman, Charles Sleeper,	Warren Chambers, 419 Boylston St., Boston, Mass.
1902.	Gilman, Louis Lincoln,	Rochester.
1896.	Gleason, John Hiram,	Manchester.
1865.	Goodhue, David Putney,	West Springfield.
1885.	Gould, Charles Reade,	Tilton.

†Died July 12, 1911

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1883.	Gove, George Sullivan,	Whitefield.
1897.	Grafton, Frank Willard,	Concord.
1908.	Graham, George Sellers,	Hanover.
1904.	Grant, Albert Ernest,	Durham.
1883.	Grant, Lindsey E.,	Somersworth.
1908.	Gravel, John M. A.,	Sask., Canada.
1869.	Graves, Eli E.,	Penacook.
1905.	Graves, Robert John,	Concord.
1909.	Gray, C. A.,	Hinsdale.
1890.	Gray, George H.,	26 Ocean St., Lynn, Mass.
1893.	Greeley, Guy Hastings,	Merrimack.
1893.	Greeley, James Thornton,	Nashua.
1901.	Greeley, Philip H.,	Farmington.
1903.	Griffin, Nathan LeRoy,	New London.
1894.	Grimes, Warren P.,	Hillsborough.
1907.	Gross, Charles William,	Milton Mills.
1909.	Guerin, Moise,	Manchester.
1897.	Guillet, Noel E.,	Manchester.
1892.	Guptill, George Herbert,	Raymond.
1901.	Hale, William,	Gloucester, Mass.
1909.	Ham, John Randolph,	Malabar, Fla.
1904.	Hanaford, Howard A.	Newport.
1904.	Hannaford, Charles W.,	Portsmouth.
1863.	Hanson, Caleb W.,	Northwood Ridge.
1888.	Harriman, Alpha H.,	Laconia.
1900.	Harrington, Charles W.,	Peterborough.
1899.	Hart, Malcolm A. H.,	Milton.
1910.	Harwood, Blake, A. T.,	Exeter.
1902.	Haskell, Pearl Tenney,	Concord.
1880.	Hatch, George Winsor,	Wilton.
1911.	Haviland, Everal C.,	Keene.
1888.	Hawkins, Frederick L.,	Meredith.
1880.	Hawley, George H.,	Barnstead.
1887.	Hayes, John Alfred,	Somersworth.

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1895.	Hazard, George S.,	Hollis.
1885.	Hazelton, George W.,	Littleton.
1893.	Heffenger, Arthur C.,	Portsmouth.
1909.	Higgins, Clifford E.,	Wilton.
1909.	Hight, Clarence Eugene,	Groveton.
1909.	Hildreth, Lewis George,	Marlborough.
1894.	Hill, Edmund E.,	Suncook.
1896.	Hill, Gardner, C.,	Keene.
1890.	Hill, Roscoe,	Epsom.
1897.	Hills, Frederick L.,	Bangor, Me.
1909.	Hinds, W. H. W., Jr.,	Milford.
1905.	Hoag, Albert Buffum,	Center Sandwich.
1892.	Hodgdon, Edwin P.,	Lakeport.
1900.	Hodsdon, B. Franklin,	Morris, Ill.
1888.	Hodsdon, Ervin Wilbur,	Mountain View.
1902.	Hoitt, George Barnard,	Manchester.
1872.	Holbrook, Guy,	295 Central St., Lowell, Mass.
1885.	Holbrook, Henry Carroll,	Penacook.
1888.	Holcombe, Charles Henry,	Brookline.
1910.	Holmes, John Franklin,	Manchester.
1907.	Hopkins, Arthur W.,	West Swanzey.
1906.	Horne, B. Frank,	Conway.
1886.	Houghton, Edward F.,	Tilton.
1910.	Howland, Clifford,	Bradford.
1910.	Hoyt, Parke Rowe,	Lakeport.
1910.	Hubbard, O. H.,	Gilsum.
1906.	Huckins, John Calvin,	Ashland.
1903.	Huckins, Theron Howard,	Tilton.
1889.	Humiston, Franklin G.,	East Jaffrey.
1882.	Hutchinson, Herbert S.,	Milford.
1890.	Hyland, Jesse Burdette,	Keene.
1892.	Ingalls, George H.,	Jamaica Plain, Mass.
1884.	Jarvis, Leonard,	Claremont,
1898.	Johnson, Hiram Leonard,	Franconia.

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1899.	Johnston, Charles E.,	Portsmouth.
1899.	Jones, Edwin E.,	Colebrook.
1909.	Jones, Ezra Albert,	Manchester.
1883.	Jones, Fred P.,	Mill Village.
1887.	Jones, Frederic W.,	New Ipswich.
1897.	Jones, Seth Warner	Franklin Falls.
1909.	Junkins, William O.,	Portsmouth.
1891.	Kean, Michael Edward,	Manchester.
1904.	Keay, Forest L.,	Rochester.
1907.	Kelso, Walter Lamson,	Hillsborough Bridge.
1904.	Kenniston, William B.,	Exeter.
1886.	Kimball, George Morrill,	Concord.
1898.	Kingsford, Howard N.,	Hanover.
1890.	Kittredge, Frank E.,	Nashua.
1911.	Kittredge, Patrick J.,	Rochester.
1897.	Knapp, Lee Victor,	Danbury.
1905.	Knowlton, John G. W.,	Exeter.
1906.	Lacasse, Leon Joseph,	Manchester.
1908.	Lachaine, Edmond,	Hinsdale.
1909.	Ladd, Samuel Tilden,	Portsmouth.
1908.	Lafontaine, Gustave,	Manchester.
1907.	La France, Albert Joseph,	Laconia.
1893.	Lake, Elmer Ellsworth,	Hampstead.
1892.	Lamson, Charles Allen,	Elkins.
1902.	Lance, Arthur Joseph,	Portsmouth.
1909.	Landman, Elbert Alonzo,	Plaistow.
1882.	Lanouette, Joseph E. A.,	Manchester.
1908.	Larochelle, Joseph E.,	Manchester.
1876.	Lathrop, Moses Craft,	Dover.
1909.	Lavalee, Arsene,	Berlin.
1898.	Lavallee, Arthur M.,	Suncook.
1909.	Lavoie, Zenon Annable,	Manchester.
1903.	Lawrence, William E.,	North Haverhill.
1910.	Leduc, Napoleon,	Somersworth.
1884.	Leet, George E.,	Concord.

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1891.	Leet, James Andrew,	Enfield.
1909.	†Leith, Harry W.,	Haverhill.
1889.	Leith, William H.,	Lancaster.
1885.	Lemaitre, Joseph E.,	Manchester.
1904.	Little, Charles S.,	Thiells, N. Y.
1895.	Littlefield, Anna Maria,	New London.
1909.	Lobdell, Alban Judson,	Winchester.
1902.	Locke, Eva M.,	Nashua.
1907.	Lord, Lester Winslow,	West Ossipee
1887.	Lougee, George W.,	Freedom.
1906.	Lovejoy, Frank Howard,	Milford.
1909.	Loveland, Israel Albert,	Keene.
1901.	Lovering, Frank Samuel,	Moultonborough
1909.	Lowe, Ernest Whittier,	Fremont.
1899.	Luce, Thomas W.,	Portsmouth.
1891.	Lyons, William H. A.,	Manchester.
1899.	Macleay, A. Alexander,	Manchester.
1909.	Macdonald, John B.,	Concord.
1909.	Marble, Henry,	Gorham.
1908.	Marcou, Louis B.,	Berlin.
1895.	Marden, Albion Sullivan,	Newport.
1911.	Marks, Homer H.,	Berlin.
1909.	McGee, Edward R. B.,	Berlin.
1888.	McGregor, George W.,	Littleton.
1909.	McLachlan, Donald C.,	Greenland.
1897.	McLaughlin, Frank W.,	Alton.
1909.	McLaughlin, Patrick J.,	Nashua.
1887.	Megrath, William A.,	Loudon.
1888.	Merrill, John F.,	Northwood Center
1904.	Miller, Elmer Manton,	Woodsville.
1903.	Milliken, Clarence M.,	Manchester.
1892.	Mitchell, Abram W.,	Epping.
1895.	Mitchell, William H.,	Loudon.
1907.	Moody, Harry Alton,	Millinocket, Me.
1883.	Moran, Benjamin George,	Nashua.

† Dead.

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1891.	*Morey, Gustavus B.,	Manchester.
1909.	Morgan, Field Chilson,	Claremont,
1892.	Morgan, George Prentiss,	Dover.
1911.	Morin, Jeremiah J.,	Rochester.
1893.	Morrill, Leonard B.,	Center Harbor.
1898.	Morrill, Sibley Gage,	Concord.
1906.	Morrisson, G. H.,	Whitefield.
1911.	Morrison, Thomas J.,	Somersworth.
1882.	Morse, Charles A.,	Newmarket.
1909.	Morse, Harry Martin,	Springfield, Vt.
1910.	Mullen, Seth Smith,	Bartlett.
1909.	Mulvanity, Albert F.,	Nashua.
1883.	Munsey, George F.,	Suncook.
1899.	Murray, John Thomas,	Manchester.
1909.	Musson, William R.,	Antrim.
1897.	Mygatt, Harry Edwin,	Nashua.
1892.	Nason, Inez Ford,	Dover.
1898.	Neal, John H.,	Portsmouth.
1910.	Newell, Charles Edward,	Derry.
1905.	Newell, Henry Ward,	Manchester.
1907.	Newton, Ethel Mitchell,	Concord.
1873.	Nichols, C. B.,	719 Grant Bldg., Los Angeles, Cal.
1881.	Nute, William Herbert,	Exeter.
1897.	Nutter, Charles F.,	Nashua.
1905.	Ober, Charles F.	Manchester.
1883.	O'Brion, Charles C.,	Groveton.
1909.	O'Connor, John C.,	Manchester.
1909.	O'Doherty, John D.,	Dover.
1900.	Oliver, Robert Freeman,	Enfield.
1901.	Osterhout, John Jacob,	Keene.
1881.	Otis, Edward Osgood,	381 Beacon St., Boston, Mass.
1907.	Page, John Marshall,	Littleton.
1905.	Parker, David W.,	Manchester.

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1868.	Parsons, John W.,	Portsmouth.
1910.	Parsons, William M.,	Manchester.
1909.	Pattee, John Ralph,	Dover.
1880.	Pattee, William H.,	Manchester.
1897.	Patterson, Charles F.,	Rye.
1895.	Pease, Byron Douglass,	Greenville.
1908.	Pender, George Edward,	Portsmouth.
1879.	Perkins, Frank B.,	West Derry.
1901.	Perkins, Frederick,	Manchester.
1889.	Petit, A. Wilfred,	Nashua.
1910.	Pherson, Frank J.,	Manchester.
1897.	Phipps, Albert G.,	Gorham.
1909.	Pierce, George W.,	Winchester.
1893.	Pitman, Arthur John,	Candia.
1906.	Pratte, Arthur A.,	Keene.
1903.	Proctor, John Donald,	Keene.
1909.	Proctor, John Harvey,	Milford.
1883.	Prouty, Ira Joslin,	Keene.
1904.	Provost, Azarie M. J.,	Berlin.
1909.	Pulsifer, Tappan Chase,	Berlin.
1894.	Quackenbos, John D.,	331 W. 28th St., New York.
1908.	Quimby, John Grant,	Lakeport.
1900.	Quinn, Charles Henry,	West Concord.
1910.	Randall, Harriet N.,	Claremont,
1907.	Reed, William Edward,	Nashua.
1909.	Reynold, Thomas O.,	Kingston.
1907.	Richard, Joseph Henry,	Dover.
1910.	Richardson, Bert Leon,	Gorham.
1911.	Richardson, Robert W.,	Lisbon.
1909.	Richardson, William,	Londonderry.
1890.	Richmond, Allen P.,	Lisbon.
1909.	Robbins, Elwin D.,	Dover.
1909.	Roberts, James S.,	Nashua.
1857.	*Roberts, Samuel W.,	Wakefield.

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1887.	Robinson, J. Franklin,	Manchester.
1909.	Rock, Timothy F.,	Nashua.
1901.	Rogers, Charles C.,	Farmington.
1908.	Rogers, Frank Norwood,	Manchester.
1904.	Rowe, Walter Cilley,	Andover.
1911.	Runnells, J. E.,	Warren Summit.
1909.	Russell, Ai Stephen,	Rumney.
1888.	Saltmarsh, George H.,	Lakeport.
1884.	*Sanborn, C. A.,	Redlands, Cal.
1880.	Sanborn, George Hoitt,	Henniker.
1902.	Sanders, Henry Clay, Jr.,	Claremont,
1900.	Sanders, Loren A.,	Concord.
1908.	Sargent, Frank H.,	Pittsfield.
1909.	Sasseville, Nicholas,	Berlin.
1910.	Scott, Mark E.,	Portsmouth.
1887.	Scott, Nathaniel H.,	Wolfeboro.
1890.	Shea, Augustus W.,	Nashua.
1881.	Shedd, George H.,	North Conway.
1901.	Shedd, John Z.,	North Conway.
1909.	Sherburne, Andrew B.,	Portsmouth.
1897.	Sikorsky, Vladimir N.,	Salem.
1888.	Smith, Arthur Noel,	Dover.
1902.	Smith, Charlotte S.,	Manchester.
1893.	Smith, Frank A.,	Lebanon.
1888.	Smith, Henry O.,	Hudson.
1899.	Smith, Herbert L.,	Nashua.
1909.	Smith, Marvin F.,	Hampton.
1902.	Smith, William Eugene,	Franklin,
1908.	Sneden, Claude M.,	Littleton.
1911.	Souter, William N.,	Portsmouth.
1888.	*Spaulding, F. W.,	Clifton Springs, N. Y.
1909.	Spear, Frank E.,	Lisbon.
1907.	Sprague, Fred Alvah,	Concord.
1882.	Staples, John Walter,	Franklin Falls.
1907.	Stark, Maurice Albert,	Goffstown.

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1899.	Stearns, Henry C.,	Haverhill.
1908.	Steele, Eugene Gillis,	North Conway.
1891.	Steele, Minot A.,	Portsmouth, R. I.
1909.	Stetson, Harry W.,	Orford.
1891.	Stevens, Jane E. Hoyt,	Concord.
1909.	Stevens, Parker B.,	Marlow.
1895.	Stickney, Henry Ladd,	Manchester.
1875.	Stillings, Ferdinand A.,	Concord.
1890.	Stokes, Dudley Leavitt,	Rochester.
1880.	Stone, Melvin T.,	Troy.
1891.	Straw, Amos Gale,	Manchester.
1892.	Straw, Zatae Longsdorff,	Manchester.
1876.	Sturtevant, Charles B.,	Manchester.
1891.	Sullivan, Dennis Edward,	Concord.
1905.	Sullivan, Miah B.,	Dover.
1903.	Sumner, Arthur F.,	Manchester.
1892.	Sweeney, Henry L.,	Kingston.
1910.	Sweeney, John L.,	Dover.
1909.	Sweeney, Mary Agnes,	Nashua.
1894.	Swett, Eddy Benjamin,	Grasmere.
1898.	Sylvain, Emile August,	Manchester.
1898.	Taft, Edward Harvey,	Milford.
1903.	Talbott, Bertell Lavoy,	Peterborough.
1905.	Tarbell, Wallace Henry,	Contoocook.
1911.	Taylor, Fred B.,	Concord.
1905.	Taylor, Herbert Leonel,	Portsmouth.
1897.	Taylor, Joseph,	West Manchester.
1897.	Thèriault, Joseph,	Concord.
1903.	Thèriault, Joseph Horace,	Claremont,
1903.	Thompson, Edward H.,	Hampton.
1910.	Thompson, Howard E.,	Bethlehem.
1906.	Thompson, Wellington A.,	Manchester.
1893.	*Thurber, M. T.,	95 Savin Hill Ave., Boston, Mass.
1897.	Tobel, Frederic Von.,	Lebanon.

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1909.	Tobey, Fred Chamberlain,	Wolfeboro.
1909.	Togus, Leopold T.,	Hooksett.
1877.	Tolles, Clarence Weston,	Claremont,
1904.	Tolman, George Averill,	Dover.
1895.	Towle, Fred Scates,	Portsmouth.
1890.	Towle, George Henry,	Deerfield.
1909.	Towle, George Henry, Jr.,	Newmarket.
1911.	Towle, Murry H.,	Manchester.
1878.	Towne, George Dana,	Manchester.
1904.	Toye, John E.,	Charlestown.
1907.	Tracy, Edward Andrew,	Keene.
1909.	Tremblay, Evariste C.,	Manchester.
1904.	True, Walter H.,	Laconia.
1904.	Tuttle, Walter,	Exeter.
1909.	Twombly, Edward E.,	Colebrook.
1902.	Underwood, David G.,	Bradford.
1909.	Upham, Samuel Rice,	Claremont,
1908.	Vallee, John Edward,	Lebanon.
1898.	Varick, William Remsen,	Concord.
1909.	Varney, Albert H.,	Newfields.
1880.	Wade, Edric Allan,	Salem Depot.
1878.	Walker, Charles Rumford,	Concord.
1901.	Walker, Charles Sidney,	Keene.
1904.	Walker, Wallace D.,	Portsmouth.
1893.	Wallace, Alonzo S.,	Nashua.
1904.	Wallace, Arthur L.,	Nashua.
1886.	Wallace, Ellen Alfleda,	Manchester.
1909.	Warden, John B.,	Whitefield.
1904.	Warner, Franklin George,	Newport.
1894.	Wason, Eugene,	Milford.
1885.	Watson, George Marshall,	Manchester.
1879.	Watson, Irving Allison,	Concord.
1901.	Watson, Maurice,	Manchester.
1887.	Way, Osman B.,	Claremont,
1883.	Weaver, Charles Albert,	New Boston.

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1899.	Weaver, George Albert,	Warren.
1909.	Webb, Rollin Edward,	Lancaster.
1904.	Webber, Norman B.,	Manchester.
1908.	Weeks, Frank Sherman,	Milton Mills.
1905.	Weeks, William Rufus,	Manchester.
1898.	Wellner, Hermann,	4506 Champlain Ave., Chicago, Ill.
1909.	Weston, Arthur Francis,	Keene.
1882.	Weymouth, George W.,	Lyme.
1894.	Wheat, Arthur Fitz,	Manchester.
1899.	Wheeler, John,	Plymouth.
1910.	Whitney, H. R.,	Northwood.
1909.	Wiggin, Henry M.,	Whitefield.
1911.	Wilkinson, Herbert E.,	Berlin.
1902.	Wilder, Richard Edward,	Whitefield.
1903.	Wilkins, George C.,	Manchester.
1896.	Wilkins, Russell,	Concord.
1910.	Williams, Harry George,	Gilsum.
1909.	Wilson, Homer B.,	South Strafford, Vt.
1904.	Woodman, James B.,	Franklin Falls.
1904.	Worthen, Eugene Mark,	Ashland.
1896.	Young, Oscar Cummings,	Charlestown.
1909.	Young, Stephen,	Dover.
1911.	Young, Walter H.,	West Ossipee.

HONORARY MEMBERS.

1903.	Barnard, H. E., B. S.,	Indianapolis, Ind.
1898.	Bartlett, Edwin J., M. D.,	Hanover.
1887.	Billings, John S., M. D.,	New York.
1900.	Cheever, David W., M. D.,	Boston, Mass.
1908.	Child, William, M. D.,	Highland Spring, Va.
1911.	Coley, William B., M. D.,	New York.

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1900. Coit, J. Milnor, Ph. D., Munich, Germany.
1911. Conant, William, M. D., Boston, Mass.
1900. Cumston, Charles G., M. D., Boston, Mass.
1900. Gay, George W., M. D., Boston, Mass.
1907. Howard, Charles D., B. S., Concord, N. H.
1908. Lamb, Frank W., M. D., Portland, Me.
1907. Lund, Fred B., M. D., Boston, Mass.
1900. Richardson, Maurice H., M. D., Boston, Mass.
1911. Thompson, W. Gilman, M. D., New York, N. Y.
1906. Williamson, W. D., M. D., Portland, Me.

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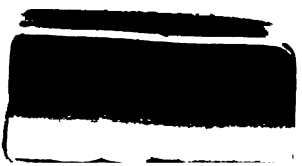

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